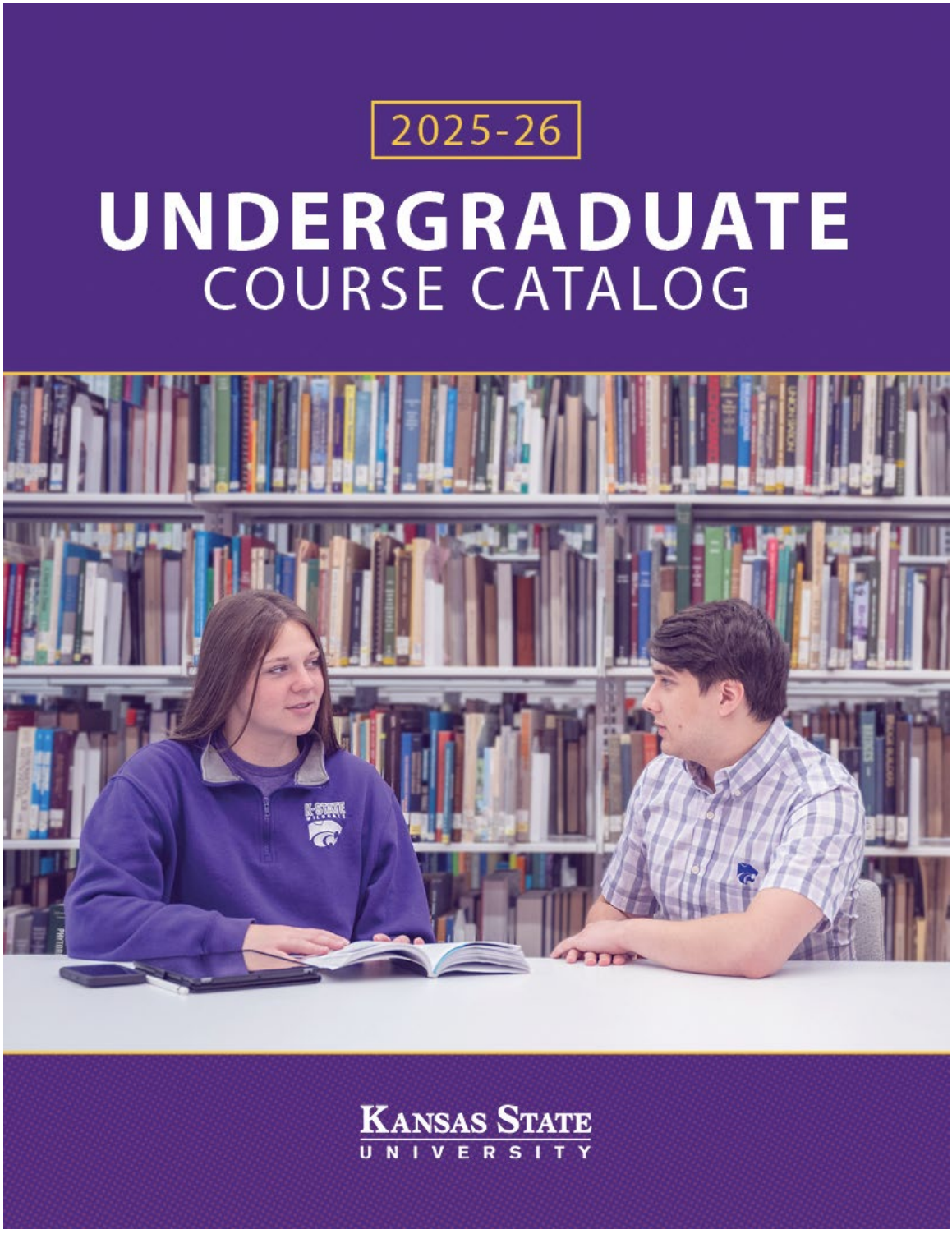
2025-2026 Undergraduate Catalog



Governance and Faculty

Governance Councils

Faculty

The faculty at Kansas State University is dedicated to excellence in teaching, student advising, research, extension education, scholarly achievement, and creative endeavor.

K-State recognizes superior teaching with annual faculty awards. Citations for the Outstanding Teachers of the Year and for Distinguished Graduate Faculty Members are presented at commencement. The university also honors faculty members who contribute to the expansion of knowledge in their respective fields.

The faculty assumes a major responsibility to participate in outreach activities that serve the citizens of the state, and many hold leadership positions in their disciplines and in professional organizations.

Faculty Senate

Undergraduate student learning outcomes

Kansas State University strives to create an atmosphere of intellectual curiosity and growth, one in which academic freedom, breadth of thought and action, and individual empowerment are valued and flourish. We endeavor to prepare citizens who will continue to learn and will contribute to the societies in which they live and work.

Students share in the responsibility for a successful university educational experience. Upon completion of their degree, all undergraduates are expected to demonstrate ability in at least five essential areas.

Knowledge

> Students will demonstrate a depth of knowledge and apply the methods of inquiry in a discipline of their choosing, and they will demonstrate a breadth of knowledge across their choice of varied disciplines.

Critical thinking

> Students will demonstrate the ability to access and interpret information, respond and adapt to changing situations, make complex decisions, solve problems, and evaluate actions.

Communication

> Students will demonstrate the ability to communicate clearly and effectively.

Diversity

> Students will demonstrate awareness and understanding of the skills necessary to live and work in a diverse world.

Academic and professional integrity

Students will demonstrate awareness and understanding of the ethical standards of their academic discipline and/or profession.

Assessment of student learning

K-State is committed to student learning and to providing the highest quality educational experiences for its students. The university upholds the assessment of student learning and the use of the results of the assessment as key strategies to ensure continuous improvement of student learning. Student learning outcomes at the university, degree program, and support program levels provide a shared vision of what we value and what students are expected to learn.

Within a culture of reflection, scholarship, trust, and shared responsibilities, faculty, with participation from students, administrators, alumni, and K-State constituents, develop and implement ongoing and systematic assessment strategies to understand what, how much, and how students learn. Through the use of both direct and indirect sources of evidence of student performance, results from assessment guide collective actions for, among others, curricular change, better learning opportunities for students, improvement of teaching, and more effective academic support services.

Further information can be found on the K-State Office of Assessment web page.

All-University Regulations

Student Conduct

Philosophy of Student Conduct

At Kansas State University students have a direct and primary role in the establishment and enforcement of campus and living group policies and regulations. The basic philosophy of discipline is one of education and enforcement of community standards. Since that is the ultimate purpose, we focus on the growth and development of the student. Most efforts are directed at preventing problems, or at least correcting them, rather than concentrating on punishment. The responsibility for proper conduct is put upon the student, not the university, with the assumption that most students do not try to intentionally cause violations, and will generally respect the rights and property of others.

The following principles govern the disciplinary process. Every effort is made to bring about outcomes that are positive for all parties involved; students will be members of all Student Governing Association judicial bodies; formal hearing processes are fundamentally fair and respect the rights of the individuals involved; confidentiality will be respected; records of proceedings will be released only on written authorization of the student(s) involved unless otherwise authorized by law or court order. The procedures are outlined in the SGA Judicial Code, included in the by-laws to the SGA Constitution.

Descriptions of the judicial structure and process, as well as university policies, are free and are available in the Office of Student Activities and Services in the K-State Student Union and on their web page.

Prohibited conduct

Neither this nor any other university policy is violated by actions that amount to expression protected by the state or federal constitutions or by related principles of academic freedom.

Student Code of Conduct

https://www.k-state.edu/sga/judicial/student-code-of-conduct.html

The following described conduct is prohibited by this Code and subject to sanctions by the University:

1. Acts of dishonesty, including but not limited to the following:
    1. Providing and/or supplying false information to any University official, faculty/staff member, or office.
    2. Forgery, alteration, or misuse of any University document, record, or instrument of identification.
    3. Tampering with the election of any organization or student governing body.
2. Conduct that substantially disrupts or interferes with teaching, research, administration, disciplinary proceedings, or other University-sponsored activities.
3. Conduct directed towards another person(s) that is intended to and does substantially disrupt or interfere with another's educational or employment opportunity, peaceful enjoyment of residence, or physical security.
4. Attempted or actual theft of property.
5. Intentional damage to property or vandalism.
6. Engaging in hazing of a member or third party for the purpose of initiation into, or admission into, affiliation with, or continued membership within a recognized student organization (RSO), is strictly prohibited. Hazing includes, but is not limited to any action, activity, or situation by which an RSO member intentionally, negligently, or recklessly endangers the physical or mental health, welfare, or safety of an individual, creates excessive fatigue, consumption of any substance or liquid (including but not limited to alcohol), sleep deprivation, mental or physical discomfort, exposes a person to extreme embarrassment or ridicule, involves personal servitude, destroys or removes public or private property, or implicitly or explicitly interferes with the academic requirements or responsibilities of a student. Apathy, acquiescence, or consent to hazing shall not be a defense to this violation.
7. Telephone or Internet harassment, which shall include: (KSA 21-6206)
    1. Making calls containing or making or transmitting any comment, request, suggestion, proposal, image or text which is lewd or obscene remarks.
    2. Making or transmitting calls, whether or not conversation ensues, or any comment, request, suggestion, proposal, image or text with intent to substantially interfere with another person's educational or employment opportunity, peaceful enjoyment of residence, or physical security, including the unwanted distribution of personal information. Transmission of comments, requests, suggestions, proposal, images, or texts may include any transmission utilizing electronic means, including but not limited to sending text, picture, video, or audio messages over social media websites, social media applications, instant messenger or chat services, message boards or any other electronic format.
8. Failure to comply with directions of University faculty, staff, or law enforcement officers acting in performance of their duties or failure to identify oneself to these persons when requested to do so.
9. Unauthorized possession, duplication or use of keys, or other devices that provide access to any University property or services.
10. Unauthorized presence in or use of University premises, facilities, or property.
11. Use, possession or distribution of alcoholic beverages in an unlawful manner or otherwise in violation of a university policy.
12. Use, possession, distribution of a controlled substance in an unlawful manner or otherwise in violation of a university policy.
13. Possession or use of firearms, explosives, weapons, or dangerous chemicals on University premises or at a University Education Program and Activities or any other violation in violation of the University's Weapons Policy.

14. Intentionally initiating or causing to be initiated, any false report, warning or threat of fire, explosion or other emergency, or tampering with, misusing, or disabling university-installed safety equipment.
15. Participation in a campus demonstration which unreasonably disrupts the normal operations of the University included but not limited to the following examples:
    1. infringing on the rights of;
    2. inciting others to disrupt scheduled and/or normal;
    3. intentional obstruction which unreasonably interferes with freedom of movement, either pedestrian or vehicular;
    4. inciting another person to breach the peace.
16. Intentionally engaging in conduct that prevents another person from exercising freedom of expression protected by law.
17. Conduct that is disorderly, lewd, or obscene; breach of peace; or inciting another person to breach the peace.
18. Any violation of "KSU Information Technology Usage Policies."
19. Abuse of the SGA Judicial Program, including but not limited to:
    1. Falsification, distortion, or misrepresentation of information.
    2. Disruption or interference with the orderly conduct of a judicial proceeding.
    3. Knowingly initiating a complaint without cause.
    4. Attempting to discourage an individual's proper participation in, or use of, the judicial system.
    5. Attempting to influence the impartiality of a member of a judicial board prior to, or during the course of, the judicial proceeding.
    6. Verbal, written, phone, or physical harassment, and/or intimidation of a member of a judicial board.
    7. Influencing or attempting to influence another person to commit an abuse of the judicial program.
20. Failure to comply with the sanction(s) imposed under this Code.
21. Any illegal or unauthorized taking, selling, or distribution of class notes.
22. Violation of University policies, rules, or regulations.
23. Violation of federal, state or local law that causes a substantial disruption to university operations.

Honor and Integrity System

Camilla Roberts, Director
K-State Honor and Integrity System
785-532-2595
E-mail: honor@k-state.edu

The Honor and Integrity System operates with the belief that college students are still developing in integrity–the ability to make wise choices in dilemmas. Students who are reported and found in violation are given educational sanctions in hopes of helping those students become better citizens in their professions.

- The honor and integrity system uses the Faculty Senate approved definition of academic dishonesty found in the Faculty Handbook and at the honor and integrity system web page.
- Students' rights are enumerated under Article XII of the Student Governing Association constitution.
- The Honor Council constitution can be reviewed in the student handbook section of the campus phone book. The investigation and adjudication procedures can be reviewed on the web page.

Kansas State University's honor and integrity system is based on personal integrity, which is presumed to be sufficient assurance that, in academic matters, each student's work is performed honestly and without unauthorized assistance. Students who register at K-State acknowledge the jurisdiction of the honor system.

The policies and procedures of the graduate and undergraduate honor and integrity system apply to all students enrolled in courses on campus, off-campus, or via distance learning.

A vital component to the Honor and Integrity System is the inclusion of the Honor Pledge which applies to ALL assignments, examinations, or other course work undertaken by undergraduate and graduate students.

Honor Council

The honor and integrity system trusts students to perform their academic work honestly and with integrity. It is based on trust and administered jointly by students and faculty members of the Honor Council. Having students equally share in the process increases the visibility of Honor Council procedures and promotes a community of trust.

The members of the Honor Council can be found here.

Reporting Academic Dishonesty

All academic community members, students, and faculty are urged to report acts of academic dishonesty. Contact the honor and integrity system director at honor@k-state.edu to discuss or report an alleged violation.

Plagiarism

Plagiarism covers unpublished and published sources, taking someone else's intellectual work and presenting it as your own. Borrowing another's semester paper, handing in a paper purchased from an individual or agency, or submitting papers from a living group, club, or organization file are all punishable as plagiarism. The current definition of plagiarism is in the University Handbook, Appendix F.

Each discipline sets the standard for attribution and acknowledgment of literary indebtedness. If in doubt, students should consult with their department or with recognized handbooks in their field.

The guidelines apply to faculty and research assistants who may use students' and colleagues' research and ideas, as well as students who use source materials and authorities and students who use other students' ideas and work.

Other Forms of Academic Cheating

Other forms of academic dishonesty subject to penalties may be found here.

University Policies

Students, faculty, staff, and administrators are community members dedicated to individual growth and development.

Enrollment at K-State entails responsibilities as well as privileges. Acceptance of and adherence to University policies are necessary to protect the rights of others and the health of the community.

The most current versions of these policies are available on the website.

Advertising, Sales, and Solicitation

Facilities of Kansas State University are primarily for University purposes of instruction, research, and public service; they are not available for unrestricted use by non-university groups. The regulation of commercial activity and the posting and distribution of advertising materials on campus are necessary so that they do not interfere with the academic mission of the University and that income gained from activities held on campus benefits the University. The regulations governing fund-raising and the posting and distributing of literature are available in the PPM, Chapter 8580.

Alcohol and Cereal Malt Beverage Policy

The legal drinking age in Kansas for alcoholic beverages is 21. The Kansas Board of Regents policy permits the service and consumption of alcoholic beverages under authorized and appropriately controlled conditions and regulations. The K-State policy includes information on alcohol and cereal malt beverage service and consumption in residence halls, at athletic events, and for student organizations. Additional information is available in the PPM, Chapter 3053.

Drug-free Workplace Policy

In 1988, Congress passed the Drug-Free Workplace Act, which applies to all institutions holding and applying for federal grants and contracts. K-State adopted the policy that the unlawful manufacture, distribution, dispensing, possession, or use of controlled substances is prohibited in its workplace. Additional Information is housed under the Clery Compliance reporting located here.

Facilities Usage

K-State facilities are available for authorized groups to use for activities that complement the university's teaching, research, and service programs. Policies and procedures for using K-State facilities (other than the K-State Student Union) are available in the PPM, Chapter 7840.

Policies and procedures for use of the K-State Student Union are available on the website here or in the PPM, Chapter 8540: Student Organization Recognition Policy.

Gender

The university seeks to create an environment where all students, faculty, and staff interact solely based on individual strengths and characteristics without having those interactions shaped by generalizations, stereotypes, or valuations based on gender. Policy on Gender and Policy on Prohibiting Discrimination, Harassment, and Sexual Violence, the Office of Civil Rights, and additional resources and support are available in the Center for Advocacy, Response, and Education (CARE).

HIV/AIDS University Guidelines

nder the direction of the Kansas Board of Regents, the university has developed guidelines to assist students, staff, and faculty members in situations involving acquired immunodeficiency syndrome (AIDS) or the causative agent, human immunodeficiency virus (HIV). Current guidelines are available upon request from the Lafene Health Center.

Political Activity Guidelines

The students, faculty, and administration at Kansas State University encourage all members of the University community to take advantage of any and all opportunities to educate themselves regarding the candidates and issues relating to national, state, and local elections. Guidelines are available in PPM, Chapter 8560. In addition, a comprehensive collection of political activities, laws, regulations, and policies is available on the webpage.

Discrimination, Harassment, and Sexual Harassment

Kansas State University is committed to maintaining academic, housing, and work environments free of discrimination, harassment, and sexual harassment. Discrimination based on race, color, ethnicity, national origin, sex, sexual orientation, gender identity, religion, age, ancestry, disability, genetic information, military status, or veteran status is prohibited. Retaliation against a person for reporting or objecting to discrimination or harassment or for participating in an investigation or other proceeding violates this Policy, whether or not discrimination or harassment occurred. This

Policy is not intended for, and will not be used to, infringe on academic freedom or to censor or punish students, faculty, employees, or staff who exercise their legitimate First Amendment rights.

Harassment under these definitions should be reported to the university administrator responsible for the department or unit or to the Office of Institutional Equity. Copies of the policy can be found in PPM, Chapter 3010, and the University Handbook, Appendix J.

Sexual Violence

No form of sexual violence will be tolerated or condoned at Kansas State University. This policy prohibits not only those acts commonly understood to constitute "sexual assault" but all attempts to coerce sexual activity as well. Although the university cannot assure protection from sexual violence, it can state expectations of conduct and impose sanctions on any university student who fails to meet those expectations. Support and resources are available in the Center for Advocacy, Response, and Education (CARE), the Office of Student Support and Accountability, or the Office of Institutional Equity.

Intellectual Property

PPM:7095.100

1. **Student Academic Creations**

   Under Kansas State University and Kansas Board of Regents policies, copyrightable materials created by students in fulfillment of academic or course requirements are considered the property of the student, except when the student collaborates with faculty or staff to create works as part of research or development activities. The University retains a license (permission) to mark, modify, handle, and retain the work as required for instructional or record-keeping purposes. The University cannot use the work in other ways without the consent of the student.

2. **Student Employees**

   Kansas State University retains an ownership interest in creations, inventions, and discoveries developed by students within the scope of their duties as employees of the University. Full details may be found in the Intellectual Property Policy of the Kansas Board of Regents and the Intellectual Property Policy of Kansas State University. The Kansas State University Intellectual Property Policy may be found online at https://www.k-state.edu/policies/ppm/7000/7095.html in the KSU Policies and Procedures Manual. The Kansas Board of Regents policy may be found at http://www.kansasregents.org/policies_procedures.html.

Undergraduate Student Grievance Policies

Undergraduate Student Grievance procedures are located in the University Handbook, Appendix V.

Community Principles

Principles of Community

https://www.k-state.edu/about/values/community/

Kansas State University is a land-grant, public research University committed to teaching and learning, research, and service to the people of Kansas, the nation, and the world. We believe our collective mission is best accomplished when every member of the University community acknowledges and practices the following principles:

We affirm the inherent dignity and value of every person and strive to maintain an atmosphere of justice based on respect for each other.

We affirm the value of human diversity and inclusion for community. We stand united against all forms of discrimination.

We affirm the right of each person to freely express thoughts and opinions in a spirit of civility and decency. We believe that diversity of views enriches our learning environment, and we promote open expression within a climate of courtesy, sensitivity, and mutual respect. For more information, please see the University's Statement on Free Speech and Expression and the University's Statement on Academic Freedom.

We affirm the value of honesty and integrity, and will act accordingly in all professional endeavors and expect the same from our colleagues.

We acknowledge that we are a part of multiple communities, and we have a responsibility to be engaged in a positive way with our civic partners.

We recognize our individual responsibilities to the University community and to the principles that sustain it. We will each strive to contribute to a positive spirit that affirms learning and growth for all members of the community.

Academic Policies and Procedures

Academic Standing

Academic Standing is a formal notice of a student's academic progress. The rules are intended to define what is expected of the students and give them an opportunity to meet the University's academic expectations. At the end of each semester (fall, spring, summer), each student's academic standing is reviewed for action.

University Handbook, F100-103

Good Academic Standing

Undergraduate students are expected to maintain a 2.000 or higher cumulative K-State GPA. Students are in good standing if they meet the minimum GPA standards based on GPA hours. A student must be in good academic standing in order to graduate.

Students on warning/probation or dismissal are not considered to be in good academic standing.

Academic Deficiencies

Undergraduate students are notified of their academic status on KSIS and by the appropriate academic deans from information supplied by the registrar's Office. The academic record of each undergraduate is evaluated twice yearly -- at the end of the fall semester and at the end of the spring semester. The student's academic status does not change as a result of work taken in the summer term or intersession.

Students (excluding students in the College of Veterinary Medicine) are placed on academic warning or dismissal according to the following two sections:

- Status of students who earn less than a 1.000 GPA in a given semester. Students who earn less than a 1.000 GPA in any semester are considered to have neglected their academic responsibilities.

- Any student (freshman or transfer) who earns less than a 1.000 GPA in his or her first semester at Kansas State University will be dismissed.

- Any continuing student enrolled at Kansas State University not dismissed by university academic standards policies but who earns less than a 1.000 semester GPA will have an academic hold placed on their account pending review by the academic dean of the dean's representative(s).

Academic Warning

Undergraduate students (excluding students in the College of Veterinary Medicine) are placed on academic warning or removed from it as follows:

1. Students who earn less than a 2.000 Kansas State University semester or cumulative GPA, excluding transfer credit, will be placed on academic warning.

2. Students will be automatically taken off an academic warning when the Kansas State University semester and cumulative GPA reaches the required level (2.000) in Spring or Fall end-of-term grade posting.

Academic Dismissal

Undergraduate students (excluding students in the College of Veterinary Medicine) are placed on academic dismissal or removed from it as follows:

1. Credit hours used to determine the appropriate threshold will include a maximum of 60 hours of transfer credit hours accepted, Kansas State University graded credit hours, and miscellaneous credit hours completed.

2. Credit hours used in calculating semester and cumulative grade point averages will include only Kansas State University graded credit hours. Grades for courses accepted in transfer from another institution will not be used in the grade point average calculation.

3. Students with a cumulative GPA of 1.000 or greater will not be dismissed until they have accumulated at least 20 semester credit hours as defined in 1) above. (Exception: A student who earns less than a 1.000 semester GPA in his or her first semester at Kansas State University will be dismissed.)

4. Students must be on academic warning the semester prior to dismissal. (Exception: A student who earns less than a 1.000 semester GPA in their first semester at K-State will be dismissed.)

5. Students will be academically dismissed if their Kansas State University cumulative GPA is below the following threshold values:

Total hours accumulated*/Kansas State University GPA

*Defined in Item 1 above

Credits	**GPA**
20-29	1.500
30-45	1.750

46-60	1.800
61-75	1.850
76-90	1.900
91-105	1.950
106+	2.000

6. Students who earn a Kansas State University semester GPA, excluding transfer credit, of 2.200 or more on 12 or more graded hours (or the minimum grade point average established by the student's college, if higher) during the semester in question will not be dismissed.

7. Students who neglect their academic responsibilities may be dismissed at any time on the recommendation of the academic dean.

8. Dismissed students will be readmitted only when approved for reinstatement by the Academic Standards Committee of the college the students are attempting to enter. Normally students must wait at least two semesters before being considered for reinstatement and are on academic warning at the time of readmission.

9. Students who have been dismissed or have had their registration withheld will receive a letter providing a contact person and information about reinstatement or registration procedures.

10. In such instances where an undergraduate student is dismissed from the university and is subsequently admitted into a Kansas State University graduate program, graduate program admission supersedes the need for a student to complete the undergraduate reinstatement process. Such students may be admitted to degree-seeking undergraduate programs without the consent of the Academic Standards Committee.

Credit

K-State is responsible for determining the credit hours awarded for coursework in its programs in accordance with the definition of a credit hour for Federal program purposes. A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency

Credit/No-Credit Courses

Certain courses for which the learning experience is based primarily on participation and/or attendance may be offered on a Credit/No Credit basis. Courses in research numbered 898 (report), 899 (thesis), and 999 (dissertation) are offered only on a Credit/No Credit basis. Letter grades may not be given for any other such Credit/No Credit courses offered by the university. {*University Handbook, F13*}

For courses that are normally given for a grade, the designation Credit may be obtained in the case of credit by examination.

Course Level Key

To maintain a common system of classification of academic information for all state universities, course levels are to be identified by the first
digit of the catalog course number as follows: {University Handbook, F51}

000-099	No credit courses. (Developmental/Pre-College/Remedial)
100-299	Lower-division, undergraduate. Designed as freshman-sophomore courses.
300-499	Upper-division, undergraduate. Designed as junior and senior courses.
500-699	Upper-division, undergraduate. Primarily for juniors and seniors, with an enrollment of less than 50% of master's students.
700-799	Graduate and Upper-Division. Primarily for master's students, with an enrollment of less than 50% of undergraduate students.
800-899	Designed primarily for master's students.
900-999	Designed primarily for doctoral students.

Master's: Courses and thesis for master's students who will ordinarily have accumulated from 1 through 30 graduate hours and students enrolled in professional schools (Law, Veterinary Medicine, M.D., Architecture, etc.).

Doctoral: Courses for specialists and doctoral students who will ordinarily have completed more than 30 hours of graduate work.

The dual listing of courses may be permitted on a limited basis with the written approval of the graduate dean of each institution. A current list of such dually listed courses shall be maintained by each university.

The course numbering system for Kansas Regents institutions as defined in the Kansas Board of Regents Policy and Procedures Manual, Chapter 2, Section A.2.

Definition of a Credit Hour

{*University Handbook, F115 & 115.1*}

One Credit Hour: the amount of effort required to attain a specific amount of knowledge or skill equivalent to three hours of effort per week for 15 weeks.

- Any combination of contact time and effort outside of class is allowed. A common practice is for one academic hour of credit to be composed of a lecture or class to meet for one hour (50 minutes) per week, with two hours per week of outside assignment and study effort expected each week for 15 weeks.

- A laboratory class period equivalent to an academic hour of credit would either meet for one three-hour period each week for 15 weeks with all effort by the student expected to be completed during the laboratory period; or one two-hour laboratory period with one hour of student effort expected outside the class period, each week for 15 weeks.

- Shortened academic sessions (including condensed semesters, intersession classes, or summer classes) and all other modalities (online, distance, etc.) are expected to maintain an equivalent amount of time (contact and outside of class time) as those classes in the 15-week semester.

It should be noted that the judgment of the amount of academic effort that comprises one hour of credit for any class is ultimately a faculty decision, from the development of the course syllabus to the approval through Faculty Senate. Additional time outside of class may be required for graduate coursework. For further detail please refer to the Course Scheduling in the Department Head's manual. {FS 2/14/12}

One-Half Credit Hour: the amount of effort required to attain a specific amount of knowledge or skill equivalent to 22.5 hours of effort.

- Any combination of contact time and effort outside of class is allowed.
- Academic sessions, including full or condensed semesters, intersession classes, summer classes, or other defined periods of time, as well as all other modalities (e.g., online, distance, etc.), are expected to maintain an equivalent amount of time (contact and outside of class time).

It should be noted that the judgment of the amount of academic effort that comprises a one-half hour of credit for any class is ultimately a faculty decision, from the development of the course syllabus to the approval through Faculty Senate. Additional time outside of class may be required for graduate coursework.

Additional Course Information

passed by Faculty Senate on June 14, 2022

Cross-listed Course(s):

Cross-listing is an administrative way for two or more academic units to share responsibility for a single course. The same course is offered collaboratively by *two or more academic units* and identified by the *same course hundred level (i.e. both 2xx, 3xx, etc.), course name***,** *course description, K-State 8 tags, and learning objectives*. Cross-listed courses are combined in the course catalog and when scheduled in KSIS and are subject to the retake policy as repeated courses.

Cross-listed courses must be identical in every way, apart from the subject code (prefix) and course number, and should only be created as a benefit to students. If a course is important to students in another program, that alone is not a valid reason for cross-listing as this can be handled in other ways within the curriculum. Cross-listing is not meant to be used for combining or merging (for purposes of getting one section in CANVAS) the same course taught by the same faculty member into one section (i.e., four sections of ENGL *101 being rolled into one CANVAS section). Trying to do this presents problems with faculty load, enrollment numbers, and reporting.

Dual-Listed Course(s):

The same course is offered by *the same academic units* and is identified typically by the *same course name*, but with different course prefixes, numbers, and levels. Each course should have clear learning outcomes that address the differences in the course level combinations, between an undergraduate/graduate course combination or master/doctoral course combination.

These courses are typically for undergraduate/graduate combinations and do not typically deviate from more than one course (hundred) level as defined by KBOR (e.g., 500/600 or 600/700) or for master/doctoral combinations (e.g., 700/800 or 800/900). Justification must be provided for deviations of more than one-course description level.

Combined, Co-Convened Course(s):

The temporary linking of one or more separate courses that are independent of each other but are combined into one class offering (same time/day and Facility ID) for administrative convenience. Co-Convened courses will have a similar course title and can be used for dual offerings of the same course (both undergraduate and graduate) or courses within different subject areas.

These courses are typically smaller cohorts of students in similar courses by topics but will vary in course level. The academic department is maximizing teaching and space resources by co-convening the course into a common day/time and space offering to ensure maximum utilization of a studio or lab space. Each course offering that is taught in a co-convened manner is independent of the other and has clear learning outcomes that address the specific course level.

Equivalent Course(s):

Courses offered by *one or more academic units* with different course numbers and course names may have a similar or different course prefix. Equivalent substitute courses are noted in the catalog that they cannot be taken for credit if credit has been received in specified equivalent course(s). Equivalent courses are subject to the retake policy as repeated courses.

Enrollment Status

Enrollment Definition
Enrollment is defined as consisting of three major components:
Application: Students provide the information requested by the University for purposes of establishing and administering academic and financial relationships that exist between the University and its students.
Registration: Students register for a course(s) and provides information needed to assess fees and tuition.
Payment of Fees: Students must pay all assessed tuition and other special fees and satisfy all due and/or delinquent amounts payable to the University.
Students who withdraw will be considered no longer enrolled at the time of withdrawal.
Certification of Enrollment
Kansas State University reports enrollment status based on the definitions listed below. Information on enrollment is reported through the National Student Clearinghouse (NSC) and is available for the semester beginning the first week of classes.

- Students participating in internships are not automatically considered full-time for the semester of their internship. The number of hours for an internship is based upon the credit hours granted for the internship.
- Non-degree students' enrollment status is reported based on the level (i.e. undergraduate, graduate, etc...) of the non-degree program.
- Students enrolled in a dissertation, thesis, or cooperative education are considered full time regardless of the hours enrolled.
- Students who withdraw are not considered enrolled in the course once the withdrawal has been processed, and the enrollment status will be adjusted and reported as of that time.
- Students receiving Financial Aid should confirm requirements for financial aid eligibility.

The following tables detail the credit hours that are used to verify full-time, three-quarter time, and half-time enrollment status for students at Kansas State University. Credit hours can be any combination of undergraduate, graduate, and veterinary medicine credit.

Fall/Spring Terms				
Status	**# of Undergraduate Credits**	**# of Graduate Credits**	**# of Grad Assistant Credits (0.4 - 0.9)**	**# of Vet Med Credits**
Full-Time	12 or more	9 or more	6 or more	9 or more
Three Quarter Time	9-11	7-8	5	7-8
Half-Time	6-8	5-6	3-4	5-6
Less Than Half-Time	1-5	1-4	1-2	1-4

Summer Terms

Status	Undergraduate Domestic	Undergraduate International *	Graduate without Assistantship	Gradaute with Assistantship	Vet Med
Full-Time	12 or more	6 or more	6 or more	1	9 or more
Three-Quarter Time	9-11	5	5	-	7-8
Half-Time	6-8	3-4	3-4	-	5-6
Less Than Half-Time	1-5	1-2	1-2	-	1-4

**Applies to students admitted to K-State as an Undergraduate International Transfer or International First-time Freshman Only*

Revised: 10/9/2019

- Undergraduate Student-Veterans receiving V.A. Educational Benefits enrolled in a (non-standard) part of term will have their training time determined by the Veteran Affairs Administration.
- Graduate Student-Veterans receiving V.A. Educational Benefits enrolled in a (non-standard) part of term will have their training time reported according to the length of a session as defined by the Veteran Affairs Administration.

Classification of Students

Classification of students {*University Handbook, F40*}. A student who is a high school graduate, or who offers 15 acceptable units of high school work, is classified as a freshman. A student is advanced to a higher classification upon successful university completion of sufficient credit hours as listed below:

0-29 credit hours	Freshman
30-59 credit hours	Sophomore
60-89 credit hours	Junior
90+ credit hours	Senior

Examinations

University Handbook, F70-74

Semester final examinations are scheduled by the Committee on Academic Policy and Procedures. Once the final examination time for a course is published in the Course Schedule it may be changed only with the concurrence of the Provost and Executive Vice President. Faculty members may assign take-home examinations, projects, papers, or other media in lieu of a written final examination. In such instances, the deadline for the submittal of the alternative assessment may not be earlier than the end of the scheduled final examination period for the course. Course schedules can be found on the university's academics website.

Except for honors, problems, seminars, reports, research, laboratory practical, language, 8-week evening college, studio, and fine arts performance classes, the last examination (either unit or comprehensive) must be given during the final examination period. No examination (unit or final) may be scheduled seven calendar days prior to the first scheduled day of semester examinations. (FSM 5/13/03)

Faculty members may not give the final examination at a time other than that published in the class schedule. The final examination may be given to an individual student under special circumstances at another time during final examinations. In particular, students who have more than two examinations
scheduled in a 24-clock hour period (a 24-hour period starting at any time) and students who have conflicting exam times may petition the instructor(s) of the highest numbered non-group exam course(s) and schedule an alternate time for taking the final examination(s) at some other time during final
examinations. If a student is unable to arrange the necessary rescheduling through the instructors involved, then the

dean will resolve the overload problem, if all the scheduled examinations are within the same college. If the examinations in question are within the jurisdiction of different colleges,
decisions regarding rescheduling shall be made by the Provost and Executive Vice President. (FS 2/12/08, revised)
University-sponsored events, on- and off-campus (such as extracurricular events, social activities, athletic events, and field trips) shall not be scheduled between 24 hours before the first scheduled final examination and the end of the last scheduled final examination. In addition, off-campus events shall
not be scheduled to prohibit a student from being on campus between 24 hours before the first scheduled final examination and the end of the last scheduled final examination.

Exceptions to the scheduling restrictions for university events can be made under the following conditions:

- Approval for events must be obtained from the Provost and Executive Vice President and President of the Faculty Senate.
- For events scheduled well in advance, approval must be obtained at least 18 weeks in advance.
- Consideration may be given to approval of events whose scheduling is not known as long as 18 weeks in advance.
- Students who plan to participate in approved events that conflict with final examinations may obtain from the Office of the Provost and Executive Vice
- Present a statement certifying their participation in the event. Faculty may choose to make special arrangements for final examinations for students who are involved in such approved events.

Grades

Grades

Grading System

Per the *University Handbook, F80-82* - grades will be reported in the following manner:

Grade	Description	Grade Point
A	Excellent work	4.000
B	Good work	3.000
C	Fair work	2.000
D	Poor Work	1.000
F	Failure	0.000
XF	Honor Code Violation	0.000
CR	Credit in courses for which no letter grade is given (non-graded courses)	N/A
EP	Exam Pass of standardized national exams	N/A

I	Incomplete	N/A
IH	Incomplete Hold	N/A
NC	No credit in courses for which no letter grade is given (non-graded courses)	N/A
NH	Non-reported Hold	N/A
NR	No Grade Reported	N/A
P	Grades of B, C, or D in courses taken A/Pass/F courses	N/A
W	Withdrawn	N/A

Grade points are assigned to determine graduation requirements, academic warning and dismissal levels, and scholastic honors.

Beginning in Spring 2012, all grades of 'F' (Fail) and/or 'NC' (No Credit) will require a "Yes/No" statement as to the student's participation in Academically related activities. This statement is required due to the federal mandate regarding the issuance of federal financial aid.

Grade changes are submitted directly to the student information system (KSIS). Grade Change Rosters will remain open for five years from the original posting date to submit changes. On-line changes to certain grades such as 'W' and 'XF' will not be allowed, nor to grades related to a completed
program of a graduated student. Any changes not accommodated by KSIS must be handled by submitting a Grade Change Memorandum form to the Dean of the College.

Courses in which a 'CR' or 'P' grade is received may be used in fulfilling graduation requirements. Only the grades 'A', 'B', 'C', 'D', and 'F' are used in calculating resident grade averages.

Grade Point Average (GPA) Types

Definitions of GPA Types and Calculating the Grade Point Average - refer to Grade Point Average (GPA) Types for additional information.

Incomplete Grade Policy

{*University Handbook, F83*}

The instructor will make an appropriate report on any student who does not complete a course in accordance with these definitions:

- If a drop in a full-semester course occurs in the first 36 calendar days, no grade is reported. The deadline for other courses will be pro-rated based on the course length.
- If a student drops a full-semester course after the first 36 calendar days, but before the start of the eleventh week, a withdrawal (W) is reported. The deadline for other courses will be pro-rated based on course length. See the Office of the Registrar website for details.
- After the tenth week of classes, a course may not be dropped.
- The grade of incomplete is a temporary grade given at the discretion of the faculty upon request of the student. An incomplete grade is appropriate when verifiable circumstances beyond the student's control prevent completion of course requirements by the grade submission deadline, and the student was engaged

and participating in the class prior to the circumstances that prevented completion of course requirements. The grade of incomplete is not to be used to avoid assigning a poor grade that results from unsatisfactory academic work.

In most instances, the requirements for completion of a course are detailed in the original course syllabus. It is in the student's best interest to confirm in writing with the faculty member the remaining requirements to be completed in order to replace the grade of incomplete. If the faculty member
requires anything other than the syllabus requirements or chooses to have a time frame for completion other than the end of the next regular term, the faculty member must provide written notification to the student. A sample notification form is available on the Office of the Registrar's website. Typically, requiring student participation in the entire course in a subsequent semester without enrolling is not an appropriate means to satisfy requirements for the incomplete.

Incompletes are expected to be finished by the conclusion of the next regular academic term (fall or spring), or the student's graduation term – whichever is earlier. Any incomplete remaining after the next regular term is reassigned to an 'F' (regardless of student's enrollment status) and will be computed in the student's GPA, weighted at 0.000-grade points per credit. In extreme cases, a student may be granted an extension of an incomplete beyond the next regular term. To request such an extension, the student must complete with appropriate signatures the Incomplete Extension Request Form.

Undergraduate research courses, internship courses, theses, dissertations, directed research courses, and other courses with the 'IH' grading option are exempt from the one regular term limit for completion.

A student with incompletes will only be cleared for graduation if receiving 'F's in every incomplete class earned in Fall 2018 or later will satisfy the requirements for graduation. Upon approval for graduation, all grades of incomplete earned Fall 2018 or later remaining on the record will be changed to grades of 'F'.

Auditing

Auditing is participating in a class regularly without submitting classwork and without receiving credit. Permission to audit is granted by the instructor, with the approval of the dean of the college in which the class is offered. Laboratory and activity courses may not be audited. Audits are not recorded on the permanent record. Students should not enroll in courses they plan to audit. {*University Handbook, Section F66.1*}

Any Kansas resident 60 years of age or older upon the presentation of sufficient proof of age shall be permitted to audit courses at state universities on a space-available basis with no requirement for payment of tuition and fees required of every student as a condition of enrollment. A person meeting these requirements shall be considered a non-degree seeking student for purposes of K.A.R. Articles 88-29, 29a, and 29b. Special academic fees shall be paid by the student. All determinations as to residency, the age of the applicant, and the space available for the auditing of courses by such persons shall be made by the state university involved. {*University Handbook, Section F66.2*} - For more information, see the Kansas Board of Regents Policy Manual.

Non-Permissible Changes to the Academic Record after Degree Posting

Grade changes may not be made after a degree has been posted, for courses taken prior to that degree posting. In addition, backdated withdrawals will not be processed after a degree has been posted, for any term prior to that degree posting.

'A'/Pass/Fail Policy

Per the *University Handbook, F91-93*, Undergraduate students, except first-term freshmen and students on academic warning, may enroll in certain courses for which they have the normal prerequisites under the 'A'/Pass/Fail grading option. Under this option, students earning a grade of 'A' in a course will have an 'A' recorded on the transcript for that course; a grade of 'B', 'C', or 'D' will be recorded as Pass; a Grade of 'F' will be recorded as 'F'.

Students may request the 'A'/Pass/Fail grading option for eligible courses at the time of enrollment through the third and fourth weeks of each regular semester or during the second week of the summer semester. Deadlines for courses running on other calendars (e.g. intersession) will be prorated. Students requesting the use of the 'A'/Pass/Fail option must obtain the signature of their advisors. The decision by a student to use the 'A'/Pass/Fail option is treated with strict confidentiality.

It is the responsibility of a student requesting enrollment under the 'A'/Pass/Fail grading option to be sure that such enrollment is valid in the declared degree program. A course originally completed under the 'A'/Pass/Fail grading option may not be converted at any time to a graded basis.

Students should be aware that some institutions, scholarship committees, and honorary societies do not find work taken on a non-graded basis (Pass) acceptable. Furthermore, many employers do not view non-graded (Pass) coursework favorably. All students should be cautious in using the 'A'/Pass/Fail grading option.

Each department or division may specify which courses its majors may take under the 'A'/Pass/Fail grading option consistent with the university requirements listed below.

1. Students may enroll under the 'A'/Pass/Fail option for any free elective course offered under this option. Courses that are specified by name or number and courses that meet general distribution requirements are not considered free electives. Students should not choose this option for any course related to their curriculum.
2. Students may enroll under the 'A'/Pass/Fail option for any general distribution requirement offered under this option, provided that the course is in the upper-division level (300 and above). General distribution requirements consist of those courses which are listed by areas, for example, three courses in the humanities.
3. Students may not enroll under the 'A'/Pass/Fail option in any course that is required by name or number as part of their degree programs. It is the responsibility of students requesting enrollment under the 'A'/Pass/Fail option to be sure that such enrollment is valid in their degree program.
4. A course originally completed under the 'A'/Pass/Fail option may only be converted to a graded basis with the consent of the instructor and academic dean.
5. Undergraduate students may submit Pass hours for graduation requirements up to and not exceeding one-sixth of the total number of hours required for a bachelor's degree.
6. Students may request the 'A'/Pass/Fail option for eligible courses at the time of enrollment through the third and fourth weeks of each regular semester or during the second week of the summer semester. Deadlines for courses running on other calendars (e.g. intersession) will be pro-rated.
7. Students requesting the use of the 'A'/Pass/Fail option must obtain their advisor's signature. The decision by a student to use the 'A'/Pass/Fail option is treated with strict confidentiality.

A student may enroll under the 'A'/Pass/Fail option for any free elective course offered under this option, that is, in any course that is in no way specified even in general terms in their curriculum, secondary major, or minor. Courses that are specified by name or number and courses that meet general distribution requirements and courses to be applied in a secondary major or minor are not considered free electives.

Students may submit Pass units for graduation requirements up to and not exceeding one-sixth of the total number of units required for a bachelor's degree (e.g. one-sixth would be no more than 20 credit hours of a 120 credit hour bachelor's degree program). That is, five-sixths of all units submitted for the degree must be units submitted on a graded or credit basis.

Undergraduate Retake Policy

Students may retake courses in order to improve the grade. If a course is retaken, the original grade is noted as retaken and removed from the cumulative grade point average. Retakes can be accomplished only by re-enrolling in and completing a Kansas State University course.

Courses originally taken on a letter grade basis may be retaken on an 'A'/Pass/Fail basis if appropriate, or if originally taken on an 'A'/Pass/Fail basis may be retaken on a letter-grade basis. The retake grade will always be used in the

cumulative grade point average computation regardless of whether it is higher or lower than the original grade. The original course remains on the academic record.

Although there is no limit to the number of times a course may be retaken, a student may retake a course with subsequent removal of the prior grade from the calculation of the grade point only once for each course, and only for the first five retaken courses during the student's academic career at K-State.

Any grades obtained from retaking courses beyond these limitations will be used in calculating the cumulative grade point average. A retaken course will count only once toward meeting degree requirements.

Any course retaken after completion of a bachelor's degree will not affect the credits or the GPA applied to that degree. {*University Handbook, F65.1*}

Courses that were retaken before Fall 1986 are not able to be used in determining whether five courses have been retaken.

Academic Fresh Start and Academic Forgiveness

The **Academic Fresh Start** and **Academic Forgiveness** Policies enable an undergraduate student to neutralize, in part, the grade impact of prior academic performance. **Academic Fresh Start** and **Academic Forgiveness** provide for the computation of an alternative GPA and for the use of that GPA in most academic situations. A student may apply only once, and to only one or the other, and the process cannot be reversed. A student may not apply for either policy until he or she has been reinstated into his or her college. To read the policy in its entirety refer to the *University Handbook, F104 - Academic Fresh Start, and Academic Forgiveness GPA Policies*.

Credit and Grades

Total units, including Pre-Academic Fresh Start, transfer work accepted, K-State resident graded units attempted and miscellaneous units completed establish the level for academic warning and dismissal calculation. However, transfer units and grades are not computed in K-State grade point averages.

The following definitions are used when determining a student's scholastic deficiency:

1. Credit hours used to determine Total Hours Accumulated will include transfer hours accepted, all K-State graded hours, and miscellaneous hours completed.
2. Grades used in calculating term and cumulative grade point averages will include only K-State graded hours. Grades for courses accepted in transfer from another institution will not be used in the grade point average calculation.

Release of Grades

A student's grades may be accessed only by the student through KSIS or by ordering an academic transcript. {*University Handbook, F43*}

Report of Grades

Academic progress reports for new freshmen are available in KSIS to students and deans' offices approximately six weeks into the spring and fall semesters.

The instructor reports final term grades, based on examinations and course work, to the Office of the Registrar via the KSIS grade roster.

In case of absence from the final examination, the instructor reports a mark of 'I' for incomplete or computes the grade on the basis of zero for the final examination. If an Incomplete is reported, a reasonable time, usually not over one month, is allowed in which to take the examination.

Grade Appeals/Grievances

Grievances involving a change of grade (but not academic dishonesty). {*University Handbook, Appendix V: 1.3*}

1. All efforts will be made by the student and instructor involved in any grievance to settle all disputes that may arise. Grade appeals must be initiated within six months following the issue date of the grade in question.
2. If a grade-change grievance is not resolved by the student and instructor, the student may appeal in writing to the department head concerned, who will act as a mediator in the dispute. This appeal should be made within two weeks of the date of the decision of the instructor. At this time, the student may petition the dean of his college for an ombudsperson. The duties of the ombudsperson are to arrange meetings of all concerned parties and report actions taken at each level to the appropriate persons or groups. The role of the ombudsperson is to expedite the process and to ensure a fair hearing.
3. If the grievance has not been settled to the student's satisfaction at the department level, a written appeal may be made to the dean of the college in which the course is taken. This appeal should be made within two weeks of the date of the decision of the department head.
4. If the student does not feel that an adequate solution has been reached in the grade appeal dispute, he or she may appeal in writing to the Undergraduate Grievance Board which will arbitrate the dispute. This appeal should be made within two weeks of the date of the decision of the dean. Appeals received during the summer will be heard the following fall term. Appeals should be addressed to the Undergraduate Grievance Board, c/o Chair (look for the name of the Chair for Committee 3030 at http://www.ksu.edu/provost/committeehb/).
5. The two-week time limits given in the sections above are intended to move the grievance process along at a reasonable rate. The limits may be modified for reasons such as illness, scheduled academic holidays, or mutual consent of both parties.

Grade Point Average (GPA) Types

All GPA types listed below are reflected in the student's academic record. *K-State GPA's are rounded to the 3rd decimal place*.

Term GPA:

The term GPA is the sum of all quality points earned for KSU courses divided by the number of all KSU hours attempted in a specific term/semester (except those hours with grades of CR, I, IH, P, NC, NR, NH or W, and KSU hours repeated for which the retake policy or academic fresh start and academic forgiveness policy was subsequently invoked). The resulting quotient is the term GPA, which is rounded to the third decimal place.

Overall Cumulative GPA:

The overall cumulative GPA is the sum of all quality points earned at KSU divided by the number of all KSU hours attempted (except those hours with grades of CR, I, IH, P, NC, NR, NH, or W, and KSU hours repeated for which the retake policy or academic fresh start and academic forgiveness policy was subsequently invoked. The resulting quotient is the overall cumulative GPA.

Note: Grades and GPA from transfer coursework are **NOT** included in the calculation of the K-State GPA and are not reflected in the term or overall cumulative GPA. Transfer GPA is only considered at the time of admission to the

university. All GPA types listed above are reflected in the student's academic record. K-State GPAs are rounded to the third decimal place.

Grade Point Averaging and Deficits

The term *average* refers to the grade point average (GPA) for work completed in the current or most recent academic program attended at Kansas State University. Grades received at other institutions are NOT averaged with grades received at K-State for the purpose of meeting the **university/institutional cumulative GPA** requirements. Other agencies and honorary societies will compute averages in accordance with their own standards and policies.

Averages are determined by computing the ratio of grade points to semester credits attempted. For the grade point average computation formula, please refer to the example below.

Calculating the Grade Point Average

Grade Point Averages (GPA) are calculated by dividing the total number of Grade Points by the number of Credit Hours enrolled. Each grade has a specific number of points assigned to it:

A: 4.000
B: 3.000
C: 2.000
D: 1.000
F: 0.000

To determine the grade points earned per class, first multiply the points by the number of credit hours.

For example: if you earned a "C" in ENGL 251 (a 3 credit hour course), then you multiply 2 points times 3 credit hours to get 6-grade points.

To determine the total grade points earned per semester, determine the points for each class and add them together for the **total grade points** that semester.

Example: If you enrolled in 13 credit hours (three 3-hour courses and one 4-hour course), and earned a "B", a "C", an "A" in the 3-hour courses, and a "D" in the 4-hour course this is how you would calculate your total grade points:

*A = 4 points * 3 credit hours = 12 grade points*

*B = 3 points * 3 credit hours = 9 grade points*

*C = 2 points * 3 credit hours = 6 grade points*

D = 1 point * 4 credit hours = 4 grade points

Total: 13 credit hours = 31 grade points

To determine your grade point average, divide the total grade points by the total credit hours under consideration. From the example above: **Divide 31-grade points by the 13 credit hours to equal a 2.380 GPA.**

Special Notes:

Grades of CR (Credit Awarded), I (Incomplete), IH (Incomplete Hold), P (Pass), NC (No Credit Awarded), NH (Non-Reported Hold), NR (No Grade Reported), or W (Withdrawn) do not impact your GPA. Do not include the credit hours for these courses in your credit hour total for calculating GPA.

A grade of F and XF is equal to 0.000 points.

* Unresolved Incomplete grades automatically will be changed to 'F' per the Incomplete Grade Policy via processes run within the Office of the Registrar.

Graduation

{*University Handbook, F121*}

Intent to Graduate:

Students must file their intent to graduate via the application for graduation clearance via KSIS. The deadline for students to declare their intent to graduate must be submitted no later than the fourth (4th) during the first four weeks week of the semester (first two weeks for the summer semester) in which the degree is to be completed. Students are prompted to verify their curriculum, and graduation term, and to give their desired name (within reason) for the commencement program as well as their diploma.

Graduation Application for Completion of a Major, Minor, or Certificate:

Graduation applications reflect the most updated version of the DARS, which is used for final graduation certification. Graduation applications are reviewed electronically within KSIS utilizing the student's DARS in consultation with their advisor(s) at each department where the student is enrolled in a major, minor, or certificate program of study. Students seeking to graduate should review their DARS in KSIS to ensure all requirements are in progress or complete. A review of Graduation applications showing an approval status must be completed by the application deadline of the student's graduation term.

Off-Campus Completion of Degree Requirements:

It is the student's responsibility to be certain that transcripts from all transfer institutions are on file and have been articulated/reflected in the DARS in the Registrar's Office before the end of the semester the degree requirements will be completed and no later than the deadline date designated on the Academic Calendar.

Commencement (Graduation Ceremonies)

Students may graduate in the Fall, Spring, or Summer semesters. K-State celebrates Commencement Ceremonies twice a year, at the end of each Fall and Spring semester. Candidates for spring graduation should attend the spring commencement exercises in May. Fall graduates are asked to participate in the fall commencement exercises in December or the following Spring. Approved summer degree candidates may participate in the fall or spring exercises before or after graduation.

Graduation (degree awarding/conferral) occurs when students complete all degree requirements, it is confirmed and certified, and then officially posted to a student's academic record (official transcript).

Commencement is a formal ceremony, celebrating the graduation of K-State students twice a year. When students participate in Commencement, they are considered candidates for graduation but attendance at the ceremony does not mean that a student has officially graduated from K-State.

Graduation Process

Degree Requirements

All degree requirements must be complete by the last day of the semester for which the graduation application is submitted. Students whose Graduation Application is denied for any reason or do not meet the requirements for graduation must submit a new application for the semester in which the requirements are met.

Good Standing Status

A student must be in good standing to receive a K-State degree. Accordingly, any student who is subject to academic warning/probation or dismissal for scholastic or disciplinary reasons will not graduate until the conditions of suspension or probation have been satisfied.

Timeline

The Office of the Registrar will begin reviewing potential graduates approximately one week after grades are due. Awarding of degrees should be completed approximately 4-6 weeks (excluding weekends and holidays) following the review. Once your degree has been posted (conferred), your unofficial and official transcript will reflect this information. Be sure to review the step-by-step instructions for Viewing your Academic History in KSIS.

Please see the Scholastic Honors portion of the Undergraduate Academic Catalog for specific information used to determine scholastic honors. Be aware, that honors indicated on the commencement program are tentative since current semester courses are not included in the cumulative GPA.

Diplomas

Upon completion of a degree, students will receive one complimentary diploma. Diplomas will be mailed to the DIPLOMA MAILING ADDRESS indicated on the student's graduation application approximately six (6) to eight (8) weeks (excluding weekends and holidays) after graduation.

All financial/academic holds must be cleared before a diploma can be mailed. Check your KSIS Student Center for hold and departmental contact information. (How to View Holds)

Students have 90 days after graduation to clear holds without delaying the mailing of a diploma. If holds are cleared after such time, students will need to notify the Office of the Registrar to arrange the release and mailing of a diploma. Diplomas will be retained for two years after the graduation date and will then be destroyed. After that time, any request for a diploma by the student will incur all charges associated with ordering a duplicate or replacement diploma. Refer to the Registrar's Website for additional information.

Honorary Degrees

Regents' institutions may award honorary degrees upon approval by the Kansas Board of Regents (Board of Regents Policy and Procedures Manual Chapter III, Section A.7). {*University Handbook, F140}*

Posthumous Degrees

A student who dies while actively pursuing a degree at Kansas State University may be considered for a posthumous degree. The dean may nominate the student for consideration by the Academic Affairs Committee and the Faculty Senate. If approved, it will be noted on the transcript and the diploma that it is a posthumous degree. {*University Handbook, F150*

Registration

Assignment of Classes

In addition to consulting with their advisor, students should be familiar with the current undergraduate and graduate catalogs regarding assignments and curricula. The catalogs are the official source of information and are maintained on the university's academics website. {*University Handbook, F8*}

Registration

University Handbook, F10-F12

Students may not attend classes without being properly registered for them, they cannot receive credit for courses in which they are not registered, and students may not register or add individual courses retroactively without approval and within appropriate deadlines. For more information visit the Office of the Registrar website.

Registration and assignment to classes take place on specific dates as shown on the academic calendar. No student may add a full-semester course after the seventh calendar day of the semester without the permission of the instructor. Students should enroll during the regularly scheduled registration periods in order to avoid late fees. More registration details, including dates for classes that run less than a full semester, can be found on the Office of the Registrar's website.

An undergraduate student may not enroll for more than 21 credit hours in a semester unless the student is granted permission to do so by the student's academic dean or the dean's representative. See the Committee on Academic Policy and Procedures (CAPP), or the Office of the Registrar, for more information on the limitation for intersession hours.

Dropping and Adding Courses; Changing Colleges; Withdrawing from the University

University Handbook, F64.1 to F64.7

During the regular session, if a student wants to drop or add a course or if an instructor recommends a change, the student should confer with an advisor.

No student may add a course with 70 or more calendar days (10 or more weeks in length) after the 7th calendar day of classes without the consent of the instructor.

An instructor may drop a student from any or all components (e.g., lecture, recitation, lab, etc.) of a course if the student is absent at the beginning of the first class period of any component of the course. Students who cannot be in attendance should arrange prior permission from the instructor in order to avoid being dropped. For purposes of this procedure, enrollment in and payment of fees for a course do not constitute sufficient notification of intent to take a course.

The last day for dropping courses with 70 or more calendar days (10 or more weeks in length), without a 'W' being recorded is at the 36th calendar day of the term. After the 68th calendar day of the term, courses may not be dropped. For courses less than 70 days (10 or more weeks in length), the drop
dates are prorated. For more information see the Academic Policy.

A student may transfer from one college to another with permission from the dean or the dean's representative of the college into which the student proposes to transfer. For more information see the Academic Policy.

Students who decide to withdraw from Kansas State University must begin the official withdrawal process at the dean's office of their college. Note that dropping all classes requires withdrawing. For more information see Dropping All Classes or Withdrawing from K-State.

- If a student withdraws during the first 36 calendar days of a 70 or more calendar day course (approximately 10 or more weeks in length), no mark will be recorded on the student's transcript.
- Thereafter, a mark of 'W' is recorded; a course less than 70 calendar days (approximately 10 or more weeks in length), is prorated.
- The deadline for withdrawing is the end of the 68th calendar day of the term; for a course less than 70 calendar days (approximately 10 or more weeks in length), the withdrawal date is prorated.

Retake Policy

University Handbook, F65.1

Students may retake courses in order to improve the grade. If a course is retaken, the original grade is noted as retaken and removed from the cumulative grade point average. Retakes can be accomplished only by re-enrolling in and completing a Kansas State University course.

Courses originally taken on a letter grade basis may be retaken on an 'A'/Pass/Fail grading basis if appropriate, or if originally taken on an 'A'/Pass/Fail grading basis may be retaken on a letter-grade basis.

The retake grade will always be used in the cumulative grade point average computation regardless of whether it is higher or lower than the original grade.

The original course remains on the academic record.

Although there is no limit to the number of times a course may be retaken, a student may retake a course with subsequent removal of the prior grade from the calculation of the grade point only once for each course, and only for the first five retaken courses during the student's academic career at K-State.

Any grades obtained from retaking courses beyond these limitations will be used in calculating the cumulative grade point average. A retaken course will count only once toward meeting degree requirements.

Any course retaken after completion of a bachelor's degree will not affect the credits or the GPA applied to that degree.

Scholastic Honors

University Handbook, F110

Graduation Honors

Bachelor's degree candidates who will have completed a minimum of 60 undergraduate hours at Kansas State University with at least 42 credit hours in graded undergraduate courses at Kansas State University are considered for graduation with honors as follows:

- Students with a 3.950 or above K-State cumulative grade point average are designated as Summa Cum Laude.
- Students with a 3.850-3.949 K-State cumulative grade point average are designated as Magna Cum Laude.
- Students with a 3.750-3.849 K-State cumulative grade point average are designated as Cum Laude.

Graduation honors for undergraduate students are based on undergraduate coursework. Any concurrent graduate or professional credit earned is excluded from the calculation of bachelor's degree graduation honors.

Students seeking a Doctor of Veterinary Medicine degree are eligible to receive graduation honors based on courses completed in the professional program.

For the purpose of the commencement ceremony, unofficial graduation honors are recognized for Bachelor's degree candidates who possess the required K-State cumulative grade point average prior to the start of the semester in which they plan to participate in the commencement ceremony, and have completed or are currently enrolled in enough credit hours to satisfy the credit hour requirements.

Semester Honors

Students with at least 12 graded hours whose semester (term) grade point average for a given semester (term) is 3.750 or above will be awarded semester honors. *This designation is determined by a snapshot of grades taken on grade day for fall and spring semesters only, and any updates resulting from grade changes will not be reflected in the honors calculation.*

Graduate School and Veterinary Medicine students are ineligible for semester honors.

Student Records

University Handbook, F41-42 & F44

FERPA

Kansas State University is in compliance with the Family Educational Rights and Privacy Act (FERPA) of 1974, as amended; this law established specific guidelines concerning the release of information and the student's privileges to inspect and review their own educational records. The Kansas State University student records policy can be found on the Registrar's website. For additional information about student records see Student Confidentiality.

Directory Information

Certain information concerning students is considered to be open to the public upon inquiry. This public information is called directory information. See the Student Records Policy.

Full Confidentiality Hold

In rare cases, a student may need additional privacy protection that is not covered in suppressing their directory information (see Directory Information section above). If a student elects to place a Full Confidentiality Hold on their

record, it means that the student's entire educational record will be suppressed and that they will not be able to discuss any part of their educational record with K-State staff remotely (telephone, FAX, or regular mail) but instead will have elected to have all conversations about their educational record in person or via their K-State email only.

It is important to remember that by choosing this option or withholding Directory Information above, other areas related to the student record may be affected. Some of these areas include but are not limited to, all future requests for Directory Information from non-institutional persons or organizations will be denied; degree or enrollment verifications for future employment through the National Student Clearinghouse will not be available; etc.

Restriction of Records

In the case of a student who is delinquent in an account to the university, including unpaid traffic or parking violations, or about whom official disciplinary action has been taken, the appropriate university official may request that the student's record not be released. The effect of this action is that transcripts are not released, and registration forms are withheld. In order for the action to be rescinded, the hold must be cleared via KSIS, indicating that the student has met the obligation. For more information about when records may be withheld, see the Student Records Policy.

Death of a Student

In accordance with the Family Educational Rights and Privacy Act (FERPA), Kansas State University's policy regarding the disposition of records held pertaining to a deceased student states that the privacy interests of an individual expire with that individual's death.

Undergraduate Degree Requirements

University Handbook, F121

Requirements for a bachelor's degree from K-State are listed below. Colleges and departments may have requirements that exceed these minimums. Students should refer to the Degree Progress Audit (DARS) to review degree requirements. To graduate, a student must complete an approved curriculum and the degree audit must indicate all requirements have been completed. Courses applied to degree requirements must be completed no later than the term in which a degree is awarded. Under special conditions, substitutions to the curriculum are allowed if approved by the department head and dean. Please consult the individual departments for details. *Professional curricula may impose additional degree requirements.* {FS 02/14/23 - Effective Fall 2023}

Minimum Credit Requirement:

A bachelor's degree requires a minimum of one hundred and twenty (120) semester hours; in an approved program; however, individual programs in some colleges and departments may exceed the minimum..

Minimum Grade Requirement:

There are two-grade point averages a student must meet to be awarded a degree

- at least 2.000 on Kansas State University graded courses that are applied toward the degree and,
- at least 2.000 cumulative GPA for all graded courses taken at Kansas State University

At least eighty-three percent (83%) of the credit hours taken at Kansas State University and applied toward a degree must be graded hours (e.g., one hundred (100) credit hours of one hundred and twenty (120) credit hour bachelor's

degree program). Required courses of an internship or practicum nature or credit by examination, offered on a Credit/No Credit basis only, are to be considered as graded hours in implementing this requirement.

Upper-Division Credit Requirement:

A minimum of forty-five (45) credit hours must be at a course level of 300 or above to meet the upper division course requirements established by KBOR {KBOR Policy Manual, Chapter III, Section A(9)(b)}.

In-Residence Requirement:

Each student must complete at least twenty-five percent (25%) or a minimum of thirty (30) credits in-residence at Kansas State University to be considered for a degree {per HLC requirements}.

Resident work includes all K-State scheduled course instruction (e.g., course component types), given by the university faculty.

Senior Year Requirement:

Of the last thirty (30) semester credits earned (course level 300 or higher), at least fifteen (15) must be completed at K-State. Credits earned in an authorized education abroad program and designated or approved domestic exchange programs or agreements may apply to this requirement. Courses in the student's major field shall be taken at Kansas State University unless an exception is granted by the major department on the petition of the student. That department shall have jurisdiction over the acceptance of major courses by transfer for fulfillment of the major requirement.

Exceptions to the senior year requirement may be made by the Dean of the college and the department head in the student's major program with submission to the Office of the Registrar and Provost Designee for approval. Exceptions may be requested if the student has completed a total of three years of work acceptable to Kansas State University.

University Requirements:

Up to half of the credits required for a normal four-year degree may be completed at an accredited two-year college (e.g., sixty (60) transfer credits for a one hundred and twenty (120)-credit hour bachelor's degree program). Colleges/Departments may have transfer agreements in place that would allow for an exception to exceed the sixty (60) semester credit hours in transfer towards a baccalaureate degree {KBOR Policy Manual, Chapter III, Section A(9)(ii)(2)(d)}.

No more than twenty-five percent (25%) of credit hours applied to degree requirements may be from Credit for Prior Learning (CPL) sources. CPL may include standardized national exams, recognition of military or workforce training, or portfolio assessment (e.g., thirty (30) credits of CPL for a one hundred and twenty (120)-credit hour bachelor's degree program) {per HLC requirements}.

Standing Requirement

A student must meet all university academic standing requirements as established in section F100-103 to receive a K-State degree. Accordingly, any student who is subject to dismissal or suspension for scholastic or disciplinary reasons will not graduate until the conditions of the dismissal or suspension have been satisfied.

The individual whose education has been interrupted may have to meet new degree requirements if a change has occurred in the approved curriculum.

Off-Campus Completion of Degree Requirements:

It is the student's responsibility to be certain that transcripts from all transfer institutions are on file and have been articulated/reflected in the Degree Progress Audit (DARS) within the semester the degree requirements will be completed and no later than the deadline date designated on the Academic Calendar.

Modification to Graduating Requirements for Students with Disabilities

Modification of Graduating Requirements for Students with Disabilities. A student may request a program modification if he or she can document a disability that directly impairs his/her ability to meet the normal requirements of the program. Students must contact the Student Access Center or the K-State Salina Student Accommodation Services unit for assistance. {FS 02/14/23} {*University Handbook, F122*}

Additional Degree Requirements

Dual Degrees

A dual degree is two unique degree types that a student has elected to pursue at one time (e.g., B.S. in Mathematics and B.S.B.A/ in Business Administration). The requirements for both degrees must be satisfied. {ARN Manual}

Minors, Secondary Majors, and Certificates

Major

A program of courses that meets the requirements for a degree in a field of study. Major (discipline): "A subject of academic study chosen as a field of specialization… characterized by the majority of courses required at the junior/senior level, generally from a specific academic department." The subject or subject areas upon which a student chooses to place principal academic emphasis. {ARN Manual}

Double Major

A double major is two majors in the same degree type being pursued by a student at one time (e.g., B.S. in Mathematics and B.S. in Geography). The requirements for both degrees must be satisfied. {ARN Manual}

Secondary Majors

An interdisciplinary major that must be completed along with a primary major course of study. A secondary field of specialization is an interdisciplinary program of study that is completed in addition to a major. These programs are administered by a director and a supervisory committee of faculty representing the various academic departments offering courses for the secondary major. Secondary majors cannot be earned outside of the completion of the primary major. {ARN Manual}

Undergraduate Academic Minors

A systematic program of study in an area of emphasis outside a student's major. A program of study with a minor emphasis in a field of specialization outside a student's major field of study. Minors are offered by academic departments and administered by a director, who is a faculty member of the academic department that offers the minor. For additional information, please refer to the University Handbook, Section F160.

Effective Spring 2026:

F160 Undergraduate minors are a sequence of related courses that, upon completion, provide a student with limited competency in a designated field of study. Minor programs of study are optional and are offered only at the undergraduate level.

General Requirements:

- A minor program will require completion of at least fifteen (15) designated credit hours of required coursework outside of the major.
- Courses forming a minor may be used to satisfy the general requirements of a major curriculum, including free electives.
- No more than six hours of transfer courses may be used for the minor.
- A minimum cumulative grade point average of 2.000 is required on courses applied to a minor.

Students who have declared an approved minor and completed all requirements for it will receive official recognition for that emphasis upon completion of the degree requirements in the major field of study and the minor field of study, the minor will be recorded on the students' academic record (official transcript) at the time of the degree posting.

A higher cumulative grade point average or minimum course grade of "C" or higher may be specified.

- Apart from "credit for prior learning," all courses applied to the minor must have letter grades.

Undergraduate Academic Credit Certificates

F170 A program of courses that emphasizes a focused specialty area of study as part of or beyond the requirements for the B.S., M.S., or Ph.D. degrees. It is designed to increase the knowledge and skills of individuals, such as to enhance their employability and opportunities for promotions and salary benefits. For additional information, please refer to the University Handbook, Section F170.

General Education: K-State Core

K-State Core is the foundation for an impactful life and career after time at K-State.

English (Written Communication Outcomes): 6 credit hours

Requirement #1 {010}

- ENGL 100 - Expository Writing I **Credits:** 3

Choose 1 from the following:

- ENGL 200 - Expository Writing II **Credits:** 3
- *ENGL 210 - Honors English* **Credits:** 3

Communication (Oral Communication Outcomes): 3 credit hours

Requirement #2 {020}

- COMM 106 - Public Speaking I **Credits:** 3
- COMM 109 - Public Speaking 1A, Honors **Credits:** 3
- * COMM 322 - Interpersonal Communication **Credits:** 3

* This course will NOT show in the list for K-State Core in uAchieve/DARS, but will apply via Statewide Transfer (SWT) if a student takes the equivalent Community College Course – it will pull in and list the 300 or 400-level K-State course currently listed under SWT.

Math & Statistics (Quantitative Literacy Outcomes): 3 credit hours

Requirement #3 {030}

- MATH 100 - College Algebra **Credits:** 3
- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3
- STAT 225 - Introduction to Statistics **Credits:** 3

Note 1: Some programs require an advanced math course beyond the general education curriculum requirements. In these situations, students who qualify to enter the advanced math course should do so, thereby fulfilling general education and program requirements.

Note 2: Some students qualify to enter an *advanced math course.* Students should take the math course they are eligible for, thereby fulfilling general education requirements.

Note 3: If Math placement scores are not met, then the student will need to enroll in the appropriate co-requisite course.

Natural & Physical Sciences (Natural & Physical Sciences Outcomes): 4-5 credit hours

Requirement #4 {040}

At least one subject area which must include a lab

Core Discipline/Subjects Under this Area
Anatomy; Astronomy; Biochemistry; Biology; Botany; Chemistry; Earth Science; Ecology; Environmental Science; Geology; Meteorology; Microbiology; Physical Geography; Physical Sciences; Physics; Physiology; Zoology; other subjects that the offering institution determines fit within the natural and physical sciences area.

- AGRON 120 - Crop Science **Credits:** 3
- AGRON 121 - Crop Science Laboratory **Credits:** 1
- ANTH 280 - Introduction to Biological Anthropology **Credits:** 4
- BIOCH 110 - Biochemistry and Society **Credits:** 3
- BIOCH 111 - Biochemistry and Society Laboratory **Credits:** 1
- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
- BIOL 101 - Concepts of Biology **Credits:** 4

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 221 - Organismic Biology **Credits:** 5
- BIOL 255 - General Microbiology **Credits:** 4
- *BIOL 441 - Human Body I **Credits:** 4
- *BIOL 442 - Human Body II **Credits:** 4
- CHM 110 - General Chemistry **Credits:** 3
- CHM 111 - General Chemistry Laboratory **Credits:** 1
- CHM 210 - Chemistry I **Credits:** 4
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
- GEOG 121 - Introductory Physical Geography: Earth Systems Science **Credits:** 3
- GEOG 122 **-** Introduction to Physical Geography: Earth Systems Science Laboratory **Credits:** 1
- GEOG 235 - Atmospheric Science **Credits:** 4
- GEOL 100 - Earth in Action **Credits:** 3
- GEOL 103 - Geology Laboratory **Credits:** 3
- GEOL 115 - Environmental Geology **Credits:** 3
- GEOL 125 - Natural Disasters **Credits:** 3
- GEOL 200 - Earth Through Time **Credits:** 3
- HORT 201 - Principles of Horticultural Science **Credits:** 4
- KIN 220 - Biobehavioral Bases of Physical Activity **Credits:** 4
- PHYS 101 - The Physical World **Credits:** 3
- PHYS 103 - The Physical World Laboratory **Credits:** 1
- PHYS 106 - Concepts of Physics **Credits:** 4
- PHYS 113 - General Physics I **Credits:** 4
- PHYS 114 - General Physics II **Credits:** 4
- PHYS 115 - Descriptive Physics **Credits:** 5
- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 214 - Engineering Physics II **Credits:** 5
- PHYS 223 - Physics I, Mechanics, and Thermodynamics **Credits:** 5
- PHYS 224 - Physics II, Electromagnetism, and Sound **Credits:** 5

* This course will NOT show in the list for K-State Core in uAchieve/DARS, but will apply via Statewide Transfer (SWT) if a student takes the equivalent Community College Course – it will pull in and list the 300 or 400-level K-State course currently listed under SWT.

Social & Behavioral Sciences (Social & Behavioral Sciences Outcomes): 6 credit hours

Requirement #5 {050}

At Least Two Courses from Two Subjects Under this Area

Core Discipline/Subjects Under this Area
Anthropology; Criminal Justice; Economics; Ethnic and/or Gender Studies; Geography; Political Science; Psychology; Social Work; Sociology; other subjects the offering institution determines fit within the social & behavioral sciences area.

- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
- AMETH 160 - Introduction to American Ethnic Studies **Credits:** 3
- ANTH 200 - Introduction to Cultural Anthropology **Credits:** 3

- ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3
- ANTH 210 - Introduction to Cultural Anthropology, Honors **Credits:** 3
- ANTH 220 - Introduction to Linguistic Anthropology **Credits:** 3
- ANTH 260 - Introduction to Archeology **Credits:** 3
- CRIM 261 - Introduction to Criminology and Criminal Justice **Credits:** 3
- ECON 101 - Contemporary Economic Issues **Credits:** 3
- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 111 - Principles of Macroeconomics - Honors **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3
- GEOG 100 - World Geography & Globalization **Credits:** 3
- GEOG 200 - Human Geography **Credits:** 3
- GEOG 201 - Human Geography (Honors) **Credits:** 3
- GWSS 105 - Introduction to Gender, Women, and Sexuality Studies **Credits:** 3
- GWSS 220 - Climate Justice Movements **Credits:** 3
- GWSS 230 - Intersectionality and Health Justice **Credits:** 3
- GWSS 275 - Gender, Race, and Sex in Science Fiction **Credits:** 3
- HDFS 110 - Introduction to Human Development **Credits:** 3
- HDFS 250 - Interpersonal and Family Relationships **Credits:** 3
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- LEAD 212 - Introduction to Leadership Concepts **Credits:** 2-3
- LEAD 225 - Fundamentals of Global Food Systems Leadership **Credits:** 3
- MANGT 220 - Principles of Management **Credits:** 3
- MANGT 230 - Business Law I **Credits:** 3
- PLAN 115 - Introduction to Regional and Community Planning **Credits:** 3
- PLAN 215 - World Cities **Credits:** 3
- POLSC 107 - Political Science Colloquium **Credits:** 2
- POLSC 110 - Introduction to Political Science **Credits:** 3
- POLSC 111 - Introduction to Political Science, Honors **Credits:** 4
- POLSC 115 - U.S. Politics **Credits:** 3
- POLSC 135 - Introduction to Comparative Politics **Credits:** 3
- POLSC 145 - World Politics **Credits:** 3
- POLSC 155 - Introduction to Political Thought **Credits:** 3
- POLSC 250 - Environmental Political Thought: The Future of Food, Air, Water, and Soil **Credits:** 3
- PSYCH 110 - General Psychology **Credits:** 3
- PSYCH 115 - General Psychology (Honors) **Credits:** 4
- PSYCH 202 - Drugs and Behavior **Credits:** 3
- PSYCH 280 - Psychology of Childhood and Adolescence **Credits:** 3
- PSYCH 290 - Innovative Studies in Psychology **Credits:** 1-6
- SOCIO 211 - Introduction to Sociology **Credits:** 3
- SOCIO 214 - Introduction to Sociology, Honors **Credits:** 4
- SOCIO 260 **-** Social Problems **Credits:** 3
- SOCWK 100 - Social Work: The Helping Profession **Credits:** 3
- SOCWK 200 - Basic Skills for Working with People **Credits:** 3

Arts & Humanities (Arts & Humanities Outcomes): 6 credit hours

Requirement #6 {060}

At Least Two Courses from Two Subjects Under this Area

Core Discipline/Subjects Under this Area
Art; Communications; Cultural Studies; Dance; English; General Humanities; History; Literature; Modern and Classical Languages; Music; Philosophy; Religion; Theatre; and other subjects the institution determines fit within the arts and humanities area.

- AGCOM 222 - Agricultural Business Communications **Credits:** 3
- AMETH 185 - Race, Film, and American Stories **Credits:** 3
- ARAB 101 - Arabic I **Credits:** 4
- ARAB 102 - Arabic II **Credits:** 4
- ARAB 201 - Arabic III **Credits:** 5
- ARCH 299 - Appreciation of Architecture **Credits:** 3
- ART 102 - Ceramics for Non-majors **Credits:** 3
- ART 103 - Jewelry Design and Processes for Non-majors **Credits:** 3
- ART 104 - Digital Photography for Non-majors **Credits:** 3
- ART 106 - Art Appreciation **Credits:** 3
- ART 108 - Introduction to Modern and Contemporary Art for Non-Majors **Credits:** 3
- ART 111 - Photography, Civil Rights, Art and the Environment **Credits:** 3
- ART 174 - A and D: Mixed Media Process and Exploration Lab **Credits:** 3
- ART 180 - AandD: Color, Light, and Perception Lab **Credits:** 3
- ART 190 - Drawing I **Credits:** 3
- ART 194 - A and D: Community and the Environment Experience **Credits:** 3
- ART 195 - Survey of Western Art History I **Credits:** 3
- ART 196 - Survey of Western Art History II **Credits:** 3
- ART 197 - Survey of Non-Western Art History **Credits:** 3
- ART 200 - AandD: Visual Representation and Fabrication **Credits:** 3
- ART 202 - Art and Insects **Credits:** 3
- ART 290 - Visual Communication Design I: Typography and Design Principles **Credits:** 3
- ART 291 - Introduction to Drawing **Credits:** 3
- CHINE 101 - Chinese I **Credits:** 4
- CHINE 200 - Chinese II **Credits:** 4
- CHINE 201 - Chinese III **Credits:** 4
- CLSCS 105 - Medical Terminology: Latin and Greek for Scientists **Credits:** 2
- COMM 120 - Introduction to Human Communication **Credits:** 3
- COMM 210 - Forensics, Debate, or Mock Trial Participation **Credits:** 0-1
- COMM 260 - Introduction to Trial Advocacy **Credits:** 3
- CNS 110 - History of Building and Construction **Credits:** 3
- COT 150 - The Humanities Through the Arts **Credits:** 3
- COT 175 - Introduction to Cultural Studies **Credits:** 3
- CZECH 101 - Czech for Travelers **Credits:** 2
- DANCE 110 - Breathe, Move, Be **Credits:** 3
- DANCE 115 - Yoga for Restoration **Credits:** 3
- DANCE 120 - Contemporary Dance I **Credits:** 2-3
- DANCE 165 - Ballet I **Credits:** 2-3
- DANCE 171 - Jazz Dance I **Credits:** 2-3
- DANCE 181 - Tap I **Credits:** 2-3
- DANCE 205 - Dance as an Art Form **Credits:** 3
- DANCE 215 - Improvisational Structures **Credits:** 2-3

- DANCE 220 - Principles of Dance Technology **Credits:** 1-3
- DANCE 225 - Rhythmic Notation for Dance **Credits:** 1
- DANCE 240 - West African Styles of Social Dance and Music **Credits:** 2
- DANCE 250 - Performance Styles **Credits:** 1
- DANCE 265 - Pointe Techniques **Credits:** 1
- DANCE 280 - Musical Theatre Dance **Credits:** 2-3
- EDEL 270 - Arts for Elementary Schools **Credits:** 3
- ENGL 170 - Writing Studio **Credits:** 0-3
- ENGL 185 - Race, Film, and American Stories **Credits:** 3
- ENGL 187 - Book Club **Credits:** 3
- ENGL 220 - Fiction into Film **Credits:** 3
- ENGL 224 - Television as Literature **Credits:** 3
- ENGL 227 - Video Games as Literature **Credits:** 3
- ENGL 230 - Classical Cultures **Credits:** 3
- ENGL 231 - Medieval and Renaissance **Credits:** 3
- ENGL 233 - Reformation to Enlightenment **Credits:** 3
- ENGL 234 - Modern **Credits:** 3
- ENGL 251 - Introduction to Literature **Credits:** 3
- ENGL 253 - Short Story **Credits:** 3
- ENGL 260 - British Literature **Credits:** 3
- ENGL 270 - American Literature **Credits:** 3
- ENGL 280 - Studies in World Literature and Culture **Credits:** 3
- ENGL 285 - Introduction to American Ethnic Literatures **Credits:** 3
- ENGL 287 - Great Books **Credits:** 3
- ENGL 295 - Selected Studies in English **Credits:** 1-3
- ENGL 297 - Honors Introduction to the Humanities I **Credits:** 3
- ENGL 298 - Honors Introduction to the Humanities II **Credits:** 3
- ENGL 299 - Honors Topics in English **Credits:** 3
- *ENGL 355 - Literature for Children **Credits:** 3
- *ENGL 381 - American Survey I **Credits:** 3
- *ENGL 382 - American Survey II **Credits:** 3
- *ENGL 461 - Introduction to Fiction Writing **Credits:** 3
- ENTOM 202 - Art and Insects **Credits:** 3
- ENVD 203 - Survey of the Design, Planning and Community Development Professions **Credits:** 1
- ENVD 250 - History of the Designed Environment I **Credits:** 3
- ENVD 251 - History of the Designed Environment II **Credits:** 3
- FREN 101 - French I (Elementary French I) **Credits:** 4
- FREN 102 - French II **Credits:** 4
- FREN 103 - Accelerated Beginning French **Credits:** 5
- FREN 201 - French III **Credits:** 3
- GREEK 101 - Classical Greek I **Credits:** 5
- GREEK 102 - Classical Greek II **Credits:** 5
- GRMN 101 - German I **Credits:** 4
- GRMN 102 - German II **Credits:** 4
- GRMN 201 - German III **Credits:** 3
- GRMN 222 - Elementary German Conversation IIIA **Credits:** 2
- HINDI 101 - Hindi I **Credits:** 4

- HINDI 102 - Hindi II **Credits:** 4
- HINDI 201 - Hindi III **Credits:** 4
- HIST 100 - Introduction to History **Credits:** 3
- HIST 101 - Western Civilization I: Ancient Greece to Early Modern Europe **Credits:** 3
- HIST 102 - Western Civilization II: Europe in the Modern World **Credits:** 3
- HIST 105 - Western Civilization: The Rise of Europe (Honors) **Credits:** 3
- HIST 106 - Western Civilization: The Modern Era (Honors) **Credits:** 3
- HIST 111 - World History to 1450 **Credits:** 3
- HIST 112 - World History From 1450 **Credits:** 3
- HIST 151 - History of the United States to 1877 **Credits:** 3
- HIST 152 - History of the United States Since 1877 **Credits:** 3
- HIST 155 - Introduction to US Military History **Credits:** 3
- HIST 200 - Topics in History for Freshmen and Sophomores **Credits:** 1-3
- HIST 250 - Russian Culture and Civilization **Credits:** 3
- HIST 361 - Blood and Steel: War in Europe since 1618 **Credits:** 3
- IAID 290 - Design and Material Culture **Credits:** 3
- IAID 299 - History of Furniture **Credits:** 3
- INDD 292 - Design Thinking **Credits:** 3
- ITAL 101 - Italian I **Credits:** 4
- ITAL 102 - Italian II **Credits:** 4
- ITAL 105 - Italian for Travelers **Credits:** 1-8
- JAPAN 101 - Japanese I **Credits:** 4
- JAPAN 200 - Japanese II **Credits:** 4
- JAPAN 201 - Japanese III **Credits:** 4
- JAPAN 299 - Special Studies in Japanese **Credits:** 1-8
- LAR 101 - Introduction to Landscape Architecture **Credits:** 3
- LAR 211 - Unlocking Creativity **Credits:** 3
- LATIN 101 - Latin I **Credits:** 4
- LATIN 102 - Latin II **Credits:** 4
- MC 110 - Mass Communication in Society **Credits:** 3
- MLANG 100 - Beginner Studies in Foreign Language **Credits:** 1-5
- MLANG 106 - Legal Terminology: Latin and French for Law Professions **Credits:** 2
- MLANG 110 - Hebrew for Beginners **Credits:** 2
- MLANG 120 - Multilingualism in the U.S. **Credits:** 3
- MLANG 200 - Intermediate Studies in Foreign Language I **Credits:** 1-5
- MLANG 280 - Studies in World Literature and Culture **Credits:** 1-5
- MLANG 297 - Honors Introduction to the Humanities I **Credits:** 3
- MLANG 298 - Honors Introduction to the Humanities II **Credits:** 3
- MUSIC 100 - Introduction to Music Theory **Credits:** 3
- MUSIC 103 - Voice Class I **Credits:** 1
- MUSIC 104 - Voice Class II **Credits:** 1
- MUSIC 111 - Concert Choir **Credits:** 0-1
- MUSIC 112 - University Choir **Credits:** 0-1
- MUSIC 113 - University Band **Credits:** 0-1
- MUSIC 114 - Cat Band **Credits:** 0-1
- MUSIC 115 - Marching Band **Credits:** 0-1
- MUSIC 116 - Concert Band **Credits:** 0-1

- MUSIC 117 - Wind Symphony **Credits:** 0-1
- MUSIC 118 - Jazz Ensemble Lab A **Credits:** 0-1
- MUSIC 119 - Madrigal and Motet Ensemble **Credits:** 0-1
- MUSIC 120 - Recorder Ensemble **Credits:** 0-1
- MUSIC 121 - Collegiate Chorale **Credits:** 0-1
- MUSIC 129 - University Orchestra **Credits:** 0-1
- MUSIC 130 - Symphony Orchestra **Credits:** 0-1
- MUSIC 131 - Theatre Orchestra **Credits:** 0-1
- MUSIC 135 - University Tenor/Bass Choir **Credits:** 0-1
- MUSIC 140 - University Treble Chorus **Credits:** 0-1
- MUSIC 150 - History of Musical Instruments **Credits:** 2-3
- MUSIC 151 - Women in Music **Credits:** 3
- MUSIC 152 - Introduction to Film Music **Credits:** 3
- MUSIC 153 - History of Jazz **Credits:** 3
- MUSIC 154 - Salsa: Afro-Cuban Music of the Past and Present **Credits:** 3
- MUSIC 155 - Jazz in Kansas City and the Southwest **Credits:** 2-3
- MUSIC 156 - Introduction to the Broadway Musical **Credits:** 3
- MUSIC 157 - Introduction to American Music **Credits:** 3
- MUSIC 160 - Experiencing Live Music **Credits:** 2-3
- MUSIC 170 - History of Rock and Roll **Credits:** 3
- MUSIC 171 - Inventing the Future: Underground Rock: 1968-1993 **Credits:** 3
- MUSIC 172 - History of Country Music **Credits:** 3
- MUSIC 173 - Music as Protest and Propaganda in the United States **Credits:** 3
- MUSIC 174 - History of Hip Hop **Credits:** 3
- MUSIC 203 - Vocal Techniques I **Credits:** 1
- MUSIC 204 - Vocal Techniques II **Credits:** 1
- MUSIC 205 - Music for Elementary Teachers **Credits:** 3
- MUSIC 208 - Guitar Class I **Credits:** 1
- MUSIC 210 - Music Theory I **Credits:** 3
- MUSIC 211 - Piano Class I **Credits:** 1
- MUSIC 212 - Piano Class II **Credits:** 1
- MUSIC 213 - Piano Class III **Credits:** 1
- MUSIC 214 - Piano Class IV **Credits:** 1
- MUSIC 220 - Topics in Music **Credits:** 1-3
- MUSIC 230 - Music Theory II **Credits:** 3
- MUSIC 231 - Aural Skills I **Credits:** 1
- MUSIC 233 - English Diction **Credits:** 1
- MUSIC 240 - Advanced String Techniques and Materials **Credits:** 1
- MUSIC 241 - Italian Diction **Credits:** 1
- MUSIC 242 - French Diction **Credits:** 1
- MUSIC 243 - German Diction **Credits:** 1
- MUSIC 244 - West African Drumming and Percussion **Credits:** 2
- MUSIC 246 - Drumset Techniques **Credits:** 1
- MUSIC 248 - Songwriting **Credits:** 3
- MUSIC 249 - Introduction to Music of the World **Credits:** 3
- MUSIC 250 - Introduction to Music **Credits:** 3
- MUSIC 251 - Applied Study for Non-Music Majors **Credits:** 1-2

- MUSIC 254 - Secondary Performance **Credits:** 1-2
- MUSIC 255 - Lower-Division Performance **Credits:** 1-4
- MUSIC 268 - Vocal Pedagogy **Credits:** 2
- MUSIC 280 - Lower-Division Ensemble Performance **Credits:** 1
- PHILO 100 - Introduction to Philosophical Problems **Credits:** 3
- PHILO 105 - Introduction to Critical Thinking **Credits:** 3
- PHILO 115 - Introduction to Philosophy of Religion **Credits:** 3
- PHILO 120 - Introduction to Philosophy of Art **Credits:** 3
- PHILO 125 - Introduction to Philosophy of Science **Credits:** 3
- PHILO 130 - Introduction to Moral Philosophy **Credits:** 3
- PHILO 135 - Introduction to Social and Political Philosophy **Credits:** 3
- PHILO 138 - Ethics and Social Media **Credits:** 3
- PHILO 140 - Introduction to Philosophy of Mind **Credits:** 3
- PHILO 145 - Historical Introduction to Philosophy **Credits:** 3
- PHILO 150 - Introduction to Philosophy of Feminism **Credits:** 3
- PHILO 160 - Introduction to Philosophy of Law **Credits:** 3
- PHILO 185 - Engineering Ethics **Credits:** 3
- PHILO 215 - Honors Introduction to Philosophy **Credits:** 3
- PHILO 230 - Honors Introduction to Moral Philosophy **Credits:** 3
- PHILO 297 - Honors Introduction to the Humanities I **Credits:** 3
- PHILO 298 - Honors Introduction to the Humanities II **Credits:** 3
- RUSSN 101 - Russian I **Credits:** 5
- RUSSN 102 - Russian II **Credits:** 5
- RUSSN 250 - Russian Culture and Civilization **Credits:** 3
- SPAN 101 - Spanish I **Credits:** 4
- SPAN 102 - Spanish II **Credits:** 4
- SPAN 110 - Conversational Spanish for the Workplace **Credits:** 3
- SPAN 201 - Spanish III **Credits:** 3
- SWAH 101 - Swahili I **Credits:** 4
- SWAH 102 - Swahili II **Credits:** 4
- SWAH 201 - Swahili III **Credits:** 4
- SWAH 202 - Swahili IV **Credits:** 4
- THTRE 111 - Production Participation **Credits:** 1
- THTRE 171 - Fundamentals of Acting **Credits:** 3
- THTRE 201 - Drugs and Alcohol in Theatre and Film **Credits:** 3
- THTRE 202 - Taboo! Transgression and Censorship in Theatre and Film **Credits:** 3
- THTRE 203 - Stage to Screen: Theatre into Film **Credits:** 3
- THTRE 205 - Contemporary American Theatre **Credits:** 3
- THTRE 211 - Run Crew **Credits:** 0-2
- THTRE 212 - Wardrobe Crew **Credits:** 1
- THTRE 220 - Musical Theatre History **Credits:** 3
- THTRE 235 - Introduction to the Art of Film **Credits:** 3
- THTRE 260 - Stage Movement **Credits:** 3
- THTRE 263 - Oral Interpretation of Literature **Credits:** 3
- THTRE 265 - Fundamentals of Improvisation I, II **Credits:** 3
- THTRE 268 - Techniques of Makeup **Credits:** 1
- THTRE 269 - Fundamentals of Technical Production **Credits:** 3

- THTRE 270 - Introduction to Theatre **Credits:** 3
- THTRE 271 - Intermediate Acting **Credits:** 3
- THTRE 280 - Script Analysis **Credits:** 3
- THTRE 299 - Vocal Expression for Actors **Credits:** 3

* This course will NOT show in the list for K-State Core in uAchieve/DARS, but will apply via Statewide Transfer (SWT) if a student takes the equivalent Community College Course – it will pull in and list the 300 or 400-level K-State course currently listed under SWT.

Free Electives (Institutionally Designated Area): 6 credit hours

Requirement #7 {070}

This area provides flexibility for each institution to define requirements to account for societal issues, local needs, and institutional priorities.

This includes ALL 100-200 Level Courses at K-State or in Transfer.
NOTE: *One course may be used to satisfy more than one requirement. However, students must complete 34-36 credit hours of general education courses.*

You may search the university course catalog individually for a Full List of K-State 100/200-level courses.

General Education: K-State Core Elementary Education PK-6

K-State Core is the foundation for an impactful life and career after time at K-State.

English (Written Communication Outcomes): 6 credit hours

Requirement #1 {010}

- ENGL 100 - Expository Writing I **Credits:** 3

Choose 1 from the following:

- ENGL 200 - Expository Writing II **Credits:** 3
- *ENGL 210 - Honors English* **Credits:** 3

Communication (Oral Communication Outcomes): 3 credit hours

Requirement #2 {020}

- COMM 106 - Public Speaking I **Credits:** 3
- COMM 109 - Public Speaking 1A, Honors **Credits:** 3
- * COMM 322 - Interpersonal Communication **Credits:** 3

* This course will NOT show in the list for K-State Core in uAchieve/DARS, but will apply via Statewide Transfer (SWT) if a student takes the equivalent Community College Course – it will pull in and list the 300 or 400-level K-State course currently listed under SWT.

Math & Statistics (Quantitative Literacy Outcomes): 3 credit hours

Requirement #3 {030}

- MATH 160 **-** Introduction to Contemporary Mathematics **Credits:** 3

Natural & Physical Sciences (Natural & Physical Sciences Outcomes): 4-5 credit hours

Requirement #4 {040}

Choose one course with a laboratory from the following courses (100-200 level courses):

- ANTH 280 - Introduction to Biological Anthropology **Credits:** 4
- BIOCH 110 - Biochemistry and Society **Credits:** 3
- BIOCH 111 - Biochemistry and Society Laboratory **Credits:** 1
- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
- BIOL 101 - Concepts of Biology **Credits:** 4
- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 221 - Organismic Biology **Credits:** 5
- BIOL 255 - General Microbiology **Credits:** 4
- *BIOL 441 - Human Body I **Credits:** 4
- *BIOL 442 - Human Body II **Credits:** 4
- KIN 220 - Biobehavioral Bases of Physical Activity **Credits:** 4

* This course will NOT show in the list for K-State Core in uAchieve/DARS, but will apply via Statewide Transfer (SWT) if a student takes the equivalent Community College Course – it will pull in and list the 300 or 400-level K-State course currently listed under SWT.

Social & Behavioral Sciences (Social & Behavioral Sciences Outcomes): 6 credit hours

Requirement #5 {050}

Choose two courses from two of the following areas (100-200 level courses):

Core Discipline/Subjects Under this Area
Anthropology; Economics; Geography; Political Science; Psychology; Sociology

- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
- AMETH 160 - Introduction to American Ethnic Studies **Credits:** 3
- ANTH 200 - Introduction to Cultural Anthropology **Credits:** 3
- ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3

- ANTH 210 - Introduction to Cultural Anthropology, Honors **Credits:** 3
- ANTH 220 - Introduction to Linguistic Anthropology **Credits:** 3
- ANTH 260 - Introduction to Archeology **Credits:** 3
- ECON 101 - Contemporary Economic Issues **Credits:** 3
- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 111 - Principles of Macroeconomics - Honors **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3
- GEOG 100 - World Geography & Globalization **Credits:** 3
- GEOG 200 - Human Geography **Credits:** 3
- GEOG 201 - Human Geography (Honors) **Credits:** 3
- HDFS 110 - Introduction to Human Development **Credits:** 3
- HDFS 250 - Interpersonal and Family Relationships **Credits:** 3
- POLSC 107 - Political Science Colloquium **Credits:** 2
- POLSC 110 - Introduction to Political Science **Credits:** 3
- POLSC 111 - Introduction to Political Science, Honors **Credits:** 4
- POLSC 115 - U.S. Politics **Credits:** 3
- POLSC 135 - Introduction to Comparative Politics **Credits:** 3
- POLSC 145 - World Politics **Credits:** 3
- POLSC 155 - Introduction to Political Thought **Credits:** 3
- POLSC 250 - Environmental Political Thought: The Future of Food, Air, Water, and Soil **Credits:** 3
- PSYCH 110 - General Psychology **Credits:** 3
- PSYCH 115 - General Psychology (Honors) **Credits:** 4
- PSYCH 202 - Drugs and Behavior **Credits:** 3
- PSYCH 280 - Psychology of Childhood and Adolescence **Credits:** 3
- PSYCH 290 - Innovative Studies in Psychology **Credits:** 1-6
- SOCIO 211 - Introduction to Sociology **Credits:** 3
- SOCIO 214 - Introduction to Sociology, Honors **Credits:** 4
- SOCIO 260 - Social Problems **Credits:** 3
- SOCWK 100 - Social Work: The Helping Profession **Credits:** 3

Arts & Humanities (Arts & Humanities Outcomes): 6 credit hours

Requirement #6 {060}

- HIST 151 - History of the United States to 1877 **Credits:** 3
  OR
- HIST 152 - History of the United States Since 1877 **Credits:** 3

Choose one course beyond HIST 151 or HIST 152 from the following areas (100-200 level courses)

Core Discipline/Subjects Under this Area
Art; Literature; Music; Theatre

- ART 102 - Ceramics for Non-majors **Credits:** 3
- ART 103 - Jewelry Design and Processes for Non-majors **Credits:** 3
- ART 104 - Digital Photography for Non-majors **Credits:** 3
- ART 106 - Art Appreciation **Credits:** 3
- ART 108 - Introduction to Modern and Contemporary Art for Non-Majors **Credits:** 3
- ART 111 - Photography, Civil Rights, Art and the Environment **Credits:** 3

- ART 174 - A and D: Mixed Media Process and Exploration Lab **Credits:** 3
- ART 180 - AandD: Color, Light, and Perception Lab **Credits:** 3
- ART 190 - Drawing I **Credits:** 3
- ART 194 - A and D: Community and the Environment Experience **Credits:** 3
- ART 195 - Survey of Western Art History I **Credits:** 3
- ART 196 - Survey of Western Art History II **Credits:** 3
- ART 197 - Survey of Non-Western Art History **Credits:** 3
- ART 200 - AandD: Visual Representation and Fabrication **Credits:** 3
- ART 202 - Art and Insects **Credits:** 3
- ART 290 - Visual Communication Design I: Typography and Design Principles **Credits:** 3
- ART 291 - Introduction to Drawing **Credits:** 3
- COT 150 - The Humanities Through the Arts **Credits:** 3
- COT 175 - Introduction to Cultural Studies **Credits:** 3
- EDEL 270 - Arts for Elementary Schools **Credits:** 3
- ENGL 185 - Race, Film, and American Stories **Credits:** 3
- ENGL 187 - Book Club **Credits:** 3
- ENGL 220 - Fiction into Film **Credits:** 3
- ENGL 224 - Television as Literature **Credits:** 3
- ENGL 227 - Video Games as Literature **Credits:** 3
- ENGL 230 - Classical Cultures **Credits:** 3
- ENGL 231 - Medieval and Renaissance **Credits:** 3
- ENGL 233 - Reformation to Enlightenment **Credits:** 3
- ENGL 234 - Modern **Credits:** 3
- ENGL 251 - Introduction to Literature **Credits:** 3
- ENGL 253 - Short Story **Credits:** 3
- ENGL 260 - British Literature **Credits:** 3
- ENGL 270 - American Literature **Credits:** 3
- ENGL 280 - Studies in World Literature and Culture **Credits:** 3
- ENGL 285 - Introduction to American Ethnic Literatures **Credits:** 3
- ENGL 287 - Great Books **Credits:** 3
- *ENGL 355 - Literature for Children **Credits:** 3
- ENTOM 202 - Art and Insects **Credits:** 3
- MUSIC 100 - Introduction to Music Theory **Credits:** 3
- MUSIC 103 - Voice Class I **Credits:** 1
- MUSIC 104 - Voice Class II **Credits:** 1
- MUSIC 111 - Concert Choir **Credits:** 0-1
- MUSIC 112 - University Choir **Credits:** 0-1
- MUSIC 113 - University Band **Credits:** 0-1
- MUSIC 114 - Cat Band **Credits:** 0-1
- MUSIC 115 - Marching Band **Credits:** 0-1
- MUSIC 116 - Concert Band **Credits:** 0-1
- MUSIC 117 - Wind Symphony **Credits:** 0-1
- MUSIC 118 - Jazz Ensemble Lab A **Credits:** 0-1
- MUSIC 119 - Madrigal and Motet Ensemble **Credits:** 0-1
- MUSIC 120 - Recorder Ensemble **Credits:** 0-1
- MUSIC 121 - Collegiate Chorale **Credits:** 0-1
- MUSIC 129 - University Orchestra **Credits:** 0-1

- MUSIC 130 - Symphony Orchestra **Credits:** 0-1
- MUSIC 131 - Theatre Orchestra **Credits:** 0-1
- MUSIC 135 - University Tenor/Bass Choir **Credits:** 0-1
- MUSIC 140 - University Treble Chorus **Credits:** 0-1
- MUSIC 150 - History of Musical Instruments **Credits:** 2-3
- MUSIC 151 - Women in Music **Credits:** 3
- MUSIC 152 - Introduction to Film Music **Credits:** 3
- MUSIC 153 - History of Jazz **Credits:** 3
- MUSIC 154 - Salsa: Afro-Cuban Music of the Past and Present **Credits:** 3
- MUSIC 155 - Jazz in Kansas City and the Southwest **Credits:** 2-3
- MUSIC 156 - Introduction to the Broadway Musical **Credits:** 3
- MUSIC 157 - Introduction to American Music **Credits:** 3
- MUSIC 160 - Experiencing Live Music **Credits:** 2-3
- MUSIC 170 - History of Rock and Roll **Credits:** 3
- MUSIC 171 - Inventing the Future: Underground Rock: 1968-1993 **Credits:** 3
- MUSIC 172 - History of Country Music **Credits:** 3
- MUSIC 173 - Music as Protest and Propaganda in the United States **Credits:** 3
- MUSIC 174 - History of Hip Hop **Credits:** 3
- MUSIC 203 - Vocal Techniques I **Credits:** 1
- MUSIC 204 - Vocal Techniques II **Credits:** 1
- MUSIC 205 - Music for Elementary Teachers **Credits:** 3
- MUSIC 208 - Guitar Class I **Credits:** 1
- MUSIC 210 - Music Theory I **Credits:** 3
- MUSIC 211 - Piano Class I **Credits:** 1
- MUSIC 212 - Piano Class II **Credits:** 1
- MUSIC 213 - Piano Class III **Credits:** 1
- MUSIC 214 - Piano Class IV **Credits:** 1
- MUSIC 220 - Topics in Music **Credits:** 1-3
- MUSIC 230 - Music Theory II **Credits:** 3
- MUSIC 231 - Aural Skills I **Credits:** 1
- MUSIC 233 - English Diction **Credits:** 1
- MUSIC 240 - Advanced String Techniques and Materials **Credits:** 1
- MUSIC 241 - Italian Diction **Credits:** 1
- MUSIC 242 - French Diction **Credits:** 1
- MUSIC 243 - German Diction **Credits:** 1
- MUSIC 244 - West African Drumming and Percussion **Credits:** 2
- MUSIC 246 - Drumset Techniques **Credits:** 1
- MUSIC 248 - Songwriting **Credits:** 3
- MUSIC 249 - Introduction to Music of the World **Credits:** 3
- MUSIC 250 - Introduction to Music **Credits:** 3
- MUSIC 251 - Applied Study for Non-Music Majors **Credits:** 1-2
- MUSIC 254 - Secondary Performance **Credits:** 1-2
- MUSIC 255 - Lower-Division Performance **Credits:** 1-4
- MUSIC 268 - Vocal Pedagogy **Credits:** 2
- MUSIC 280 - Lower-Division Ensemble Performance **Credits:** 1
- THTRE 111 - Production Participation **Credits:** 1
- THTRE 171 - Fundamentals of Acting **Credits:** 3

- THTRE 201 - Drugs and Alcohol in Theatre and Film **Credits:** 3
- THTRE 202 - Taboo! Transgression and Censorship in Theatre and Film **Credits:** 3
- THTRE 203 - Stage to Screen: Theatre into Film **Credits:** 3
- THTRE 205 - Contemporary American Theatre **Credits:** 3
- THTRE 211 - Run Crew **Credits:** 0-2
- THTRE 212 - Wardrobe Crew **Credits:** 1
- THTRE 235 - Introduction to the Art of Film **Credits:** 3
- THTRE 260 - Stage Movement **Credits:** 3
- THTRE 263 - Oral Interpretation of Literature **Credits:** 3
- THTRE 265 - Fundamentals of Improvisation I, II **Credits:** 3
- THTRE 268 - Techniques of Makeup **Credits:** 1
- THTRE 269 - Fundamentals of Technical Production **Credits:** 3
- THTRE 270 - Introduction to Theatre **Credits:** 3
- THTRE 271 - Intermediate Acting **Credits:** 3
- THTRE 280 - Script Analysis **Credits:** 3
- THTRE 299 - Vocal Expression for Actors **Credits:** 3

* This course will NOT show in the list for K-State Core in uAchieve/DARS, but will apply via Statewide Transfer (SWT) if a student takes the equivalent Community College Course – it will pull in and list the 300 or 400-level K-State course currently listed under SWT.

Elementary Education Designated Area: 6 credit hours

Requirement #7 {070}

As part of the Systemwide (PK-6) Elementary Universal Transfer Pathway, this is a deviation from Bucket #7 Institutionally Designated Plan. **The course cannot have been used in another bucket.**

- AMETH 160 - Introduction to American Ethnic Studies **Credits:** 3
  OR
- POLSC 115 - U.S. Politics **Credits:** 3

- Choose one free elective {100-200}: **Credits:** 3

You may search the university course catalog individually for a Full List of K-State 100/200-level courses.

Glossary and Abbreviations

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

A/Pass/F: A grading option in which a student earning a grade of A in a course will have an A recorded for that course; a grade of B, C, or D will be recorded as a Pass; and a grade of F will be recorded as an F.

Academic good standing: (as displayed on enrollment verification form)

- YES = Student is in good standing; eligible to re-enroll; not dismissed
- NO = Student is not in good standing; not eligible to re-enroll; dismissed

Academic load: The total number of credit hours enrolled in during one term.

Academic warning: (Warning) An indication that a student is in academic difficulty which could lead to dismissal from the university.

Add/Drop: Changing the student's course schedule by adding and/or dropping a course.

Advanced standing: Having credit awarded for previous work or testing.

Advisor: A department or college-based faculty member who helps a student achieve her or his educational goals by providing guidance on courses, program requirements, prerequisites, programs of study, and policies and procedures.

Audit: Auditing is participating in a class regularly without submitting class work and without receiving credit. {University Handbook, F66.1-F66.2}

B.A. degree: (Bachelor of Arts) Courses selected from a variety of disciplines with concentrations in one or two areas. A modern language is required for a B.A. degree.

B.S. degree: (Bachelor of Science) A specified program of required courses with fewer electives than the B.A. A modern language is not required.

Baccalaureate: Refers to the bachelor's degree.

Certificate programs: A non-degree credential designed to provide students with specialized knowledge that is less extensive than, and different from an undergraduate or graduate degree program. A certificate program represents a focused collection of courses that, when completed, affords the student some record of coherent academic accomplishment in a given discipline or set of related disciplines.

Classification: Level of progress toward a degree with classifications of freshman, sophomore, junior, or senior, depending on the number of term hours completed.

College: An academic unit of the university. Kansas State University has nine colleges.

Combined, Co-Convened Course(s): The temporary linking of one or more separate courses that are independent of each other but are combined into one class offering (same time/day and Facility ID) for administrative convenience. Co-Convened courses will have a similar course title and can be used for dual offerings of the same course (both undergraduate and graduate) or courses within different subject areas.

Cooperative education (co-op): The integration of academic experience with planned employment experiences that relate to a student's academic major or career goals. The work experience supplements and complements the curriculum.

Concurrent enrollment: (Conc.) This term usually means the student is enrolled in High School and is taking college credit at the same time.

Course: A unit of study a student enrolls in during a term.

Credit by examination: Credit is received when a student takes an oral or written examination without enrolling in a course.

Credit hour: (Cr.) The amount of effort required to attain a specific amount of knowledge or skill is equivalent to three hours of effort per week for 15 weeks. Any combination of contact time and effort outside of class is allowed {University Handbook: Section F115}.

Credit/No Credit: (C/NC) A grading option with successful completion of a course recorded as Credit and failure as No Credit. No other grades are given for such courses and they are not figured into the grade point average.

Cross-listed course: Cross-listing is an administrative way for two or more academic units to share responsibility for a single course. The same course is offered collaboratively by *two or more academic units* and identified by the *same*

*course hundred level (i.e. both 2xx, 3xx, etc.), course name***,** *course description, K-State 8 tags, and learning objectives*. Cross-listed courses are combined in the course catalog and when scheduled in KSIS and are subject to the retake policy as repeated courses.

Curriculum: A program of courses that meets the requirements for a degree in a particular field of study, also referred to as a major.

Degree program: Courses required for completion of a particular degree.

Department: A unit within a college representing a discipline.

Discipline: An area of study representing a branch of knowledge, such as mathematics.

Dismissal: (Dismissed) A student who neglects his or her academic responsibilities may be dismissed on the recommendation of an academic dean.

Double major: A double major is two majors in the same degree type being pursued by a student at one time (e.g., B.S. in Mathematics and B.S. in Geography). The requirements for both degrees must be satisfied.

Drop/Add: Changing the student's course schedule by adding and/or dropping a course, or both.

Dual degrees: A dual degree is two unique degree types that a student has elected to pursue at one time (e.g., B.S. in Mathematics and B.S.B.A in Business Administration). The requirements for both degrees must be satisfied.

Dual-listed Courses: The same course is offered by *the same academic units* and is identified typically by the *same course name*, but with different course prefixes, numbers, and levels. Each course should have clear learning outcomes that address the differences in the course level combinations, between an undergraduate/graduate course combination or master/doctoral course combination.

Ed.D.: Doctor of Education degree. A post-baccalaureate degree is awarded upon completion of at least three years of full-time specialized study, together with a major research contribution to the field of education that demonstrates independence as a scholar. The degree culminates with a formal dissertation.

Ed.S.: Education Specialist degree. An Ed.S is an advanced degree for teachers who want to keep working while gaining specialized proficiency in a particular area of interest, such as administrative leadership, education technology, or early childhood.

Electives: Courses chosen by a student that is not required for the major or minor. The number of hours of electives required varies according to a student's major.

Enrollment: The process of selecting course(s) and being enrolled/registered in the course(s).

Equivalent course: (Equiv.) Courses offered by *one or more academic units* with different course numbers and course names may have a similar or different course prefix. Equivalent substitute courses are noted in the catalog that they cannot be taken for credit if credit has been received in specified equivalent course(s). Equivalent courses are subject to the retake policy as repeated courses.

Extracurricular: Activities such as band or debate for which a student may earn credit toward graduation. Extracurricular activities are counted as electives.

Financial aid: Help provided to a student to pay for college. Aid is available from grants, loans, scholarships, and work/study employment.

Grade point average: A measure of a student's academic achievement at a college or university; calculated by dividing the total number of grade points received by the total number attempted.

Graduate student: A student who has completed a bachelor's degree and has met all the requirements for admission to Graduate School.

Intersession: Courses offered in-between terms.

K-State 8: Indicates that the course has been approved for the K-State 8 General Education Program which encourages students to be intellectual explorers. Students who first enroll in Summer 2011 or later must meet the requirements of the K-State 8 General Education Program.

Lecture: (Lec.) A course wherein the teaching is done primarily through oration.

M.A.: Master of Arts degree. A post-baccalaureate degree is awarded upon completion of at least 30 term hours of graduate credit, usually in the humanities or social sciences. May or may not include research and a thesis, depending on the field of study.

Major: A program of courses that meets the requirements for a degree in a particular field of study.

Minor: A systematic program of study in an area of emphasis outside a student's major.

M.S.: Master of Science degree. A post-baccalaureate degree is awarded upon completion of at least 30 term hours of graduate credit, usually in the sciences or professions. Research and a thesis are required in most of the sciences.

Non-Degree seeking student: A student taking courses at K-State, but not admitted to a program leading to a degree.

Non-Standard Course: A course that is not scheduled in the full fall/spring scheduling guidelines of a term.

One-Half Credit Hour: The amount of effort required to attain a specific amount of knowledge or skill equivalent to 22.5 hours of effort. Any combination of contact time and effort outside of class is allowed. Academic sessions, including full or condensed semesters, intersession classes, summer classes, or other defined periods of time, are expected to maintain an equivalent amount of time (contact and outside of class time). {University Handbook: Section F115.1}

Option: An approved group of courses creating a specialty within a major field of study.

Orientation: Activities designed to help new students become acquainted with the university.

Ph.D.: Doctor of Philosophy degree. A post-baccalaureate degree is awarded upon completion of at least three years of full-time specialized study, together with a major research contribution to the discipline that demonstrates independence as a scholar. The degree culminates with a formal dissertation.

Prerequisite: (Pr.) A requirement, usually credit in another course, must be met before a particular course can be taken.

Probation: Probation is an academic warning that a student is in academic difficulty which could lead to dismissal from the university.

Recitation: (Rec.) A small section is usually taken in conjunction with a lecture.

Regular Session Course: A course that meets for the first time during the first 7 calendar days of the semester and that has its last class meeting during the final 7 calendar days of the semester.

Repeatable Course: A course that may be taken multiple times without being subject to the retake policy. There may be a credit hour or course count limit associated with a repeatable course.

Scholastic honors: An award an undergraduate receives based on the excellence of K-State academic work.

Secondary major: Interdisciplinary major which must be completed along with a primary major course of study. A secondary field of specialization is an interdisciplinary program of study which is completed in addition to a major. These programs are administered by a director and a supervisory committee of faculty representing the various academic departments offering courses for the secondary major. Secondary majors cannot be earned outside of the completion of the primary major.

Special student: An undergraduate student taking courses at K-State but not regularly enrolled in work toward a degree.

Transcript: An official copy of a student's permanent academic record.

Transfer student: A student who terminates enrollment in another college or university and subsequently enrolls at K-State.

Undergraduate student: A university student who has not received a bachelor's degree.

Variable: (V/Var.) The credits earned in some courses may vary.

Course Description Key

Course Descriptions

The following course description key explains the system used for courses listed throughout the catalog.

Sample undergraduate course description

GEOG 221 - Introductory Physical Geography
Credits: (4)
A basic physical geography course examining the atmosphere, biosphere, geosphere, and hydrosphere, with emphasis on processes, patterns, and physical background.
Note: Three hours of lecture and one two-hour lab a week.
Requisites: Prerequisite: None.
Typically Offered: Fall, Spring, Summer
K-State 8: Empirical and Quantitative Reasoning; Natural and Physical Sciences

Sample graduate course description

GEOG 895 - Topics in Spatial Analysis
Independent advanced study of a selected topic. An example is the use of remote sensing and GIS in environmental modeling.
Credits: 1-3
Requisites: Pr.: Consent of instructor.
Typically Offered: Fall, Spring, Summer

Course number

The letters **GEOG** generally denote the department in which the course is offered (in this case, the Department of Geography).
The three digits of the course number **321** (undergraduate) and **899** (graduate) represent the level of the course (e.g., 100-199 = first year, 200-299 = second year, etc.)

Refer to the Course Level Key in Academic Policies and Procedures within the Credit Section

The number in parentheses (4) indicates the units of credit given for the course.

The **Fall, Spring, Summer**, and/or **intersession** indicates the semester or semesters, each course is usually offered.

K-State 8 indicates that the course has been approved for the K-State 8 General Education Program which encourages students to be intellectual explorers. Students who first enroll in Summer 2011 or later must meet the requirements of the K-State 8 General Education Program.

The abbreviation **Pr**. indicates prerequisites for the course. In the sample course, students would be required to have completed Environmental Geography I before enrolling. Some courses list **Recommended pr**., which means a previous course is strongly recommended, although not required.

Some courses may allow or require concurrent or co-requisite enrollment in other courses. This is indicated by the abbreviation **Conc**.

Courses

AAI 301 - Career Readiness for Applied and Technical Professions

Credits: 3

This course will allow students to synthesize career and academic opportunities related to their technical coursework into viable career pathways. Exploration of career interests and values will be accomplished through selected assessments, applied learning projects, and online resources. Identification of defined academic and career pathways are curated through evaluation, decision-making, and defining short and long-term career goals. Since the course is foundational for the degree completion program in Applied and Interdisciplinary Studies, it is assumed that a student will already have completed 30 credit hours or an associate's degree completed.

Repeat for Credit
N

Requisites
Requisite: Completed 30 Hours of Undergraduate Coursework and enrolled as an Applied and Interdisciplinary Studies student (AIS)

Typically Offered
Fall or Spring

AAI 395 - Undergraduate Topics in Applied and Interdisciplinary Studies

Credits: .5-3

Selected undergraduate topics in applied and interdisciplinary studies.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AAI 495 - Undergraduate Special Topics in Applied and Interdisciplinary Studies

Credits: .5-3

Special Topics in Applied and Interdisciplinary Studies.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AAI 501 - Internship in Applied and Interdisciplinary Studies

Credits: 3

This internship course provides students in interdisciplinary fields with hands-on experience in a professional setting. Students are responsible for finding their own internship site(s) prior to enrolling in the course. The course includes reflections and discussions where students can share their experiences and insights by integrating their academic knowledge with practical application.

Note
Required of all Applied and Interdisciplinary Studies Majors.

Repeat for Credit
Y

Requisites
Students should have senior standing and have completed AAI 301: Career Readiness for Applied and Technical Professionals. Permission to enroll will be granted when the student has verified an internship location has been secured.

Typically Offered
Fall, Spring, Summer

AAI 502 - Applied Studies Seminar

Credits: 3

This applied studies seminar is designed to bridge the gap between undergraduate academic experiences and the professional world. Students will connect their research, writing, and exploration with real-world issues in their intended career fields. The course also focuses on expanding the critical skills necessary for new employees, with topics ranging from professional communication to navigating employment challenges in an evolving landscape.

Repeat for Credit
N

Requisites
A student must have completed AAI 301: Career Readiness for the Applied and Technical Professions and be senior standing to register for this course. While not required for this course, it is recommended that student have take AAI 501: Internship in Applied and Interdisciplinary Studies prior to this course.

Typically Offered
Fall, Spring, Summer

AAI 595 - Undergraduate Advanced Topics in Applied and Interdisciplinary Studies

Credits: .5-3

Advanced undergraduate topics in Applied and Interdisciplinary Studies.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AAI 695 - Special Topics in Applied and Interdisciplinary Studies

Credits: .5-3

Special topics in Applied and Interdisciplinary Studies.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AAI 795 - Topics in Applied and Interdisciplinary Studies

Credits: .5-6

Selected topics in applied and interdisciplinary studies.

Note
100% Lecture

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AAI 797 - U.S. Animal Politics and Policymaking

Credits: 2

The goal of this course is for students to become familiar with basic concepts of politics and policymaking related to animals in the United States. The course will examine the role of interest groups, elected representatives, and government agencies in the creation and implementation of policies involving companion animals, wildlife, farm animals, and animals used in research.

Repeat for Credit
N

Typically Offered
Spring

AAI 801 - Interdisciplinary Process

Credits: 3

The overall goal of this course is for students to develop an understanding of and practice in interdisciplinary and multidisciplinary thinking, problem solving, and team based leadership, using models that allow interdisciplinary and cross-function teams to work together and to generate imaginative and creative solutions to complex challenges and problems.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

AAI 840 - Regulatory Aspects of Drug and Vaccine Development in the Animal Health Industry

Credits: 2

This course explores the topic of regulations associated with animal health product development and manufacturing. Topics for discussion will include an overview of the regulatory affairs process in the U.S. and other countries, drug and vaccine classifications and the approval process, GCP/GLP guidelines, drug and vaccine

efficacy and safety testing, human and environmental safety issues, and future challenges and current industry needs.

Note
100% Lecture

Repeat for Credit
N

Typically Offered
Fall, Spring

AAI 841 - Strategies in Pre-Clinical and Clinical Research for Regulatory Affairs in Animal Science

Credits: 2

In this course, students will review the history of regulations as well as gain an understanding of the integration of science into successful product approval outcomes. Students will learn how to achieve target claims for developing new products while ensuring safety. Students will also be introduced to the planning, design, and conduct of preclinical and clinical studies. The topics covered include protocol design and the evaluation and assessment of regulatory submissions. The course will consider practical issues in regulatory affairs. Students may participate in case study exercises.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

AAI 842 - Strategies in the Stewardship of Licensed Pharmaceuticals and Biologics in Animal Health

Credits: 1

In this course, students will learn about the role of regulatory affairs in the stewardship of animal health products. The topics covered include expected activities primarily post product approval, compliance, strategies for supply management, product life cycle management, risk management, and the role of industry in policy development. Communication with various stakeholders, including regulatory agencies, research and development, manufacturing, and marketing and sales are covered. The course will consider practical issues in regulatory affairs. Students may participate in case study exercises.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

AAI 843 - Regulatory Development of Animal Pharmaceuticals - FDA

Credits: 2

In this course, students will focus on the regulatory strategies that support product development and maintenance regulated by the Food and Drug Administration (FDA) Center for Veterinary Medicine (CVM). This includes product development strategies based on clinical and nonclinical data, key manufacturing and supply chain regulations, and post approval product life cycle management, including pharmacovigilance. Variances between food animal and non-food animal targets in developing regulatory strategies will be reviewed. Special topics, current topics and FDA enforcement actions will be covered.

Repeat for Credit
N

Requisites
Prerequisite: AAI 840, STAT 703

Typically Offered
Summer

AAI 844 - Regulatory Development of Animal Pesticides - EPA

Credits: 2

In this course, students will focus on the regulatory strategies for the development of products deemed to be regulated by the Environmental Protection Agency (EPA). This course will focus on product development strategies, manufacturing and supply chain regulations, and post marketing product life cycle management, including pharmacovigilance. Environmental laws and risk assessment will also be covered.

Repeat for Credit
N

Requisites
Prerequisite: AAI 840, STAT 703

Typically Offered
Fall

AAI 845 - Regulatory Development of Animal Biologicals and Diagnostics - USDA

Credits: 2

In this course, students will focus on the structure and detailed approach for developing animal biologicals and diagnostics regulated by the United States Department of Agriculture (USDA). Students will gain solid understanding of the critical pathway to successful product development, manufacturing, compliance, and product life cycle management, including post marketing surveillance. The course also addresses adapting new technology to emerging and re-emerging diseases.

Repeat for Credit
N

Requisites
Prerequisite: AAI 840, STAT 703

Typically Offered
Fall

AAI 846 - Special Topics: Regulatory Affairs in Animal Health

Credits: 1

This course will be used as the final culminating experience in the Animal Health Regulatory Affairs (AHRA) graduate certificate program, where it will require the completion of a final project that integrates learning following the completion of program courses.

Repeat for Credit
N

Requisites
Prerequisites: AAI 840, AAI 841, AAI 842, AAI 843, AAI 844, AAI 845, and STAT 703 or advisor approval.

Typically Offered
Fall, Spring, Summer

AAI 852 - Vaccinology

Credits: 3

This multidisciplinary course is designed to provide the student with an understanding of vaccine development (including technology) from conceptualization through development, testing, and utilization. This course will specifically cover topics on the principles of pathogenesis of infectious diseases, immune protection, and eliciting protective immunity by vaccination; application of traditional and new technologies to vaccine development; principles of pre-clinical development, manufacturing, and clinical evaluation of a vaccine; importance of the regulatory process to vaccine development; and utilization of epidemiology to measure vaccine need and effectiveness.

Repeat for Credit
N

Typically Offered
Spring

AAI 858 - Capstone Experience I

Credits: 1

This course provides students the opportunity to synthesize and integrate knowledge in its application to professional practice. It is designed for students who intend to work in an applied professional setting where they are expected to critically apply existing knowledge and methods to solve problems. Students will complete a project proposal on a topic of interest and related assignments, in consultation with the instructor.

Note
100% Individual Instruction

Repeat for Credit
Y

Requisites
Prerequisite: Only Professional Science Master's degree students may enroll in this course.

Typically Offered
Fall, Spring, Summer

AAI 859 - Capstone Experience II

Credits: 2

This course provides students the opportunity to synthesize

and integrate knowledge in its application to professional practice. It is designed for students who intend to work in an applied professional setting where they are expected to critically apply existing knowledge and methods to solve problems. Students will produce written reports and oral presentations on their project of focus.

Note
100% Individual Instruction

Repeat for Credit
Y

Requisites
Prerequisite: AAI 858. Only Professional Science Master's degree students can enroll in AAI 859. Instructor approval is required.

Typically Offered
Fall, Spring, Summer

AAI 860 - Introduction to Systems and Data in Animal Health

Credits: 2

The field of Animal Health data analytics is comprised of the application of data systems, data computing, and data programming. This course is focused on data systems and data acquisition within animal health systems.

This is an interdisciplinary course for students interested in data insights and digital technologies in animal health that explores life cycle and data collection systems encountered in Animal Health for both production and companion species, including the realities of data acquisition, data types, and analytics that may exist within those systems.

Repeat for Credit
N

Typically Offered
Fall

AAI 861 - Research Strategies to Drive Development of Animal Health Products

Credits: 2

Develop a working knowledge of the product development pipeline and continuous discovery techniques using both research and market insights as drivers for innovation in the Animal Health industry.

Repeat for Credit
N

Typically Offered
Spring

AAI 862 - Applied Analytics in Animal Health

Credits: 3

The field of Animal Health data analytics is comprised of the application of data systems, data computing, and data programming. This course will cover all three areas of data systems, data computing, and data programming in an applied format that is specific to the animal health industry.

This is an applied course for students interested in developing skills in analytics and data science as they apply to animal health. Students will be expected to assess relevant outcomes in animal health systems while deducing proper methods for data preparation and manipulation, extrapolating understanding of data analytics to select the appropriate analysis approach, performing supervised and unsupervised machine learning, and effectively communicating both analysis and interpretation of outcomes as they apply to the field of animal health. Students will be asked to use Python and other software systems. Students will formulate reasons why working in interdisciplinary teams benefits analytic projects in animal health.

Note
Course does not have prerequisites but it is recommended that students take AAI 864 or similar course for those without a data analytics or data programming background.

Repeat for Credit
N

Requisites
Prerequisite: Recommend AAI 864 or similar course for those without a data analytics or data programming background.

Typically Offered
Spring

AAI 863 - Special Topics: Data Analytics and Insights in Animal Health

Credits: 1

This course is the final component of the Data Analytics and Insights in Animal Health Graduate Certificate program. Students will demonstrate core certificate objectives by completing a project proposing a new data analytic and insight technology for the animal health industry. Students will describe the necessary components for project execution, requirements to develop the analytic tool or technology, and how the analytic tool or technology will be used in animal health.

Repeat for Credit
N

Requisites
AAI 860, AAI 861, and AAI 862

Typically Offered
Fall, Spring, Summer

AAI 864 - Introduction to Computing for Animal Health

Credits: 3

The field of Animal Health data analytics is comprised of applications of data systems, data computing, and data programming. The focus of this course is on data computing and programming as applied to animal health data.

The purpose of this course is to introduce students to the application of essential data-driven approaches to tackle the challenges facing animal health. The use of computational approaches is considered to be more valuable in helping scientists study specific hypotheses in animal health. The Introduction to Computing for Animal Health course will focus on intuitive computational methods to address animal health questions with interdisciplinary philosophy. Students will understand the analysis workflows and computational methods that unravel and translate complicated data from animal health into a comprehensive demonstration.

Repeat for Credit
N

Typically Offered
Spring

AAI 865 - Assessing Effectiveness of Animal Therapeutics and Vaccines

Credits: 1

This interdisciplinary course is designed for students working with data derived from animal health systems to expand their knowledge and understanding of the pathophysiology of common animal diseases. This course will familiarize students with animal disease processes and basic principles behind the use of clinical laboratory assays, including their use in assessing efficacy of drugs or vaccines. Laboratory data from animal studies will be used to apply principles discussed during the course.

Repeat for Credit
N

Typically Offered
Fall

AAI 867 - Zoonotic Pathogens in the Food Chain

Credits: 2

This interdisciplinary course is designed for students to expand their knowledge of how modern food production systems contribute to the risk of zoonotic diseases, and where mitigation strategies need to be focused. Through case study discussions, students will examine attributes of microorganisms that allow potential contamination of food sources, as well as how new trends in animal production, such as organic livestock farming and raw milk consumption, influence safety in the food chain.

Repeat for Credit
N

Typically Offered
Summer

AAI 870 - Seminar in Applied and Interdisciplinary Studies

Credits: 1-6

Student presentations and discussion of current topics and recent findings in applied and interdisciplinary studies.

Note
100% Seminar

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AAI 880 - Problems in Applied and Interdisciplinary Studies

Credits: 1-6

Opportunity for advanced independent study of a specific problem or technique in applied and interdisciplinary studies. Topics selected jointly by student and instructor.

Note
10% Independent Study

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AAI 895 - Advanced Topics in Applied and Interdisciplinary Studies

Credits: 5-6

Focus on advanced topics in applied and interdisciplinary studies.

Note
100% Lecture

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AAI 899 - Research in Applied and Interdisciplinary Studies.

Credits: 1-6

Research with a focus on applied science and interdisciplinary studies.

Note
100% Research

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AAM 472 - Large Fixed-Wing Operations Flight Lab

Credits: 2

In this course, students will learn to fly a larger than small UAS. This will require students to fly within a regulatory environment outside of 14 CFR Part 107. Course delivery will focus on safety and crew resource management. Emphasis is on experiential learning.

Note
3 hours of lab per week. Students are required to travel to an area designated for flight operations.

Repeat for Credit
N

Requisites
Prerequisite: UAS 471 and UAS 367

Typically Offered
Spring

AAM 601 - Introduction to Advanced Air Mobility Systems

Credits: 1

Students will be introduced to the Urban Air Mobility and Uncrewed Traffic Management ecosystem. Additional learning areas will include an overview of regulations, airspace structures, enabling technologies and subsystems, and principles of systems engineering.

Repeat for Credit
N

Typically Offered
Fall

AAM 605 - System Architectures in Advanced Air Mobility Systems

Credits: 2

Using a Systems Engineering approach, students will be introduced to the major technical components of Advanced Air Mobility frameworks and critical subsystems such as Autonomous Systems, Guidance and Navigation, Cyber-Physical Systems, Sensory Platforms, Ground Systems, and Uncrewed Traffic Management Systems. Other emerging topics will be included.

Repeat for Credit
N

Typically Offered
Fall

AAM 732 - Aerospace Communication Systems

Credits: 3

Students will be introduced to radio systems, air-to-air, air-to-ground communications, and an overview of current approaches to line-of-sight and beyond-line-of-sight techniques. Additional learning areas include Airspace integration UAS/UAM/ATM/ATC Technologies, BLOS and Satellite Data Link Connectivity, Communications system design, Review of models and techniques (e.g. Uplink/Downlink Model, Noise, SNR), Antennas design and propagation, and Cyber-attack challenges and mitigations.

Repeat for Credit
N

Typically Offered
Fall

AAM 762 - Guidance and Navigation Systems

Credits: 3

Students will develop an understanding of classical and advanced guidance and navigation theories to critically select design guidance and navigation systems. Topics include corridor planning, uncrewed guidance, conventional and advanced guidance approaches, such as proportional navigation, geometric guidance, optimal guidance, GNSS (Global Navigation Satellite Systems), terrain-based navigation, SLAM (Simultaneous Localization and Mapping), cooperative guidance and collision avoidance.

Repeat for Credit
N

Typically Offered
Spring

AAM 801 - Electromagnetic Threats and Mitigation Design for Advanced Air Mobility Systems

Credits: 3

Fundamentals of Electromagnetic Environmental Effects (E3) for AAM systems and mitigation using analytical and software tools. Emphasis will be placed on understanding and hazard mitigation of electromagnetic (EM) energy coupling processes through various transfer paths to onboard receptor devices. E3 sources to be studied include lightning, high-intensity radiated fields (HIRF), portable electronic devices (PED), and precipitation static (P-static).

Repeat for Credit
N

Typically Offered
Spring

ACCTG 231 - Introduction to Managerial Accounting

Credits: 3

Introduces the concepts associated with managerial accounting including cost accounting, job order costing, activity-based costing, cost-volume profit, and incremental analysis. Introduction to budgetary planning, variance analysis, and data analysis is included.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: MATH 100.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

ACCTG 241 - Introduction to Financial Accounting

Credits: 3

Introduces the concepts associated with the accounting cycle, the revenue cycle, the expenditure cycle (including business investments), and the financing cycle. Included is introduction to financial statements and data analysis.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 231.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

ACCTG 331 - Intermediate Accounting and Analytics I

Credits: 3

Enhances the understanding of the conceptual framework, the accounting information system, the financial statements, revenue recognition, and current assets. These topics will be enhanced using analytics.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 241.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

ACCTG 342 - Taxation I

Credits: 3

Fundamental concepts of income determination in federal and state income tax regulations; examination of the impact of tax regulation on business and personal financial planning and decision making.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 331 or [ACCTG 241 and Senior Standing (90 credit hours)]

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

ACCTG 413 - Accounting Information Systems

Credits: 3

This course describes how information flows through an enterprise, the sources and nature of documents, and the controls necessary to insure the accuracy and reliability of information. The course will also incorporate information technology controls, current computer systems, data analytics, and software applications into the course.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 241.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

ACCTG 431 - Problems in Accounting

Credits: 1-18

Problems in Accounting

Repeat for Credit
Y

Requisites
Prerequisite: Background of courses needed for the problems undertaken in accounting and consent of instructor.

Typically Offered
Fall, Spring

ACCTG 432 - Cost Accounting

Credits: 3

Identifying relevant accounting data and organizing, summarizing, and analyzing that data into information useful for planning and budgeting, decision making, controlling, and evaluating functions of management.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 331, MANGT 421.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

ACCTG 433 - Intermediate Accounting and Analytics II

Credits: 3

Enhances the understanding of long-term assets, current liabilities, long-term liabilities, and stockholders' equity concepts. These topics will be enhanced using analytics.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 331.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

ACCTG 442 - Auditing I

Credits: 3

An introduction to the environment of auditing and the objectives and techniques of both financial and operational auditing.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 433 and Restricted to Accounting majors

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

ACCTG 445 - Financial Statement Analysis

Credits: 3

This course will develop a student's skills and knowledge in the analysis and interpretation of corporate financial statements and their related footnotes. The class will encourage the student to think logically and creatively about the strengths and weaknesses of accounting information available to investors and shareholders. The main course objective is for the student to be capable of doing an in-depth analysis of a company's financial and operating performance from several financial statements.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 231 and ACCTG 241, and FINAN 450.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

ACCTG 490 - Accounting Analytics

Credits: 3

This course will develop in-depth knowledge of the use of Microsoft Excel and other technology to analyze complex accounting information. The course will focus on using large volume data sets to simulate real world analytical problem solving.

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Repeat for Credit
N

Requisites
Prerequisite: ACCTG 241.

Typically Offered
Fall, Spring, Summer

ACCTG 494 - Law for Accountants

Credits: 3

An intensive study of an accountant's professional

responsibilities to the public and the profession and the knowledge of the legal implications of business transactions, particularly as they relate to accounting and auditing.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing.

Typically Offered
On sufficient demand

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

ACCTG 622 - Fraud and Forensics

Credits: 3

This is a full semester course focused on the tools needed to conduct a fraud-sensitive audit or to conduct a fraud investigation. As a part of this course, the student will learn numerous techniques used by fraudsters to deceive their victims as they misappropriate resources. In addition, the student will learn how to investigate accusations or suspicions of fraud from the initial gathering of evidence to the ultimate resolution of the investigation which could include criminal and/or civil lawsuits. Such understandings are important to the practicing auditor. Given the recent scandals in financial reporting, the auditor needs to be alert to signals of fraud in order to discharge his or her responsibilities to the profession, client, and public.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 331

Typically Offered
Spring

ACCTG 625 - International and Multijurisdictional Taxation

Credits: 3

Explores the fundamental principles underpinning the US tax law with regard to multijurisdictional activity (primarily international, some interstate).

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 342.

Typically Offered
Spring

ACCTG 631 - Accounting Internship

Credits: 0-3

Provides a full semester of practical accounting experience prior to entering graduate accounting program.

Repeat for Credit
N

Typically Offered
Fall, Spring

ACCTG 641 - Intermediate Accounting and Analytics III

Credits: 3

Builds on the second intermediate class. Enhances the understanding of investments, accounting for income taxes, pensions and post-retirement benefits, leases, accounting changes (including errors), the statement of cash flows, and disclosures. These topics will be enhanced using analytics.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 331

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

ACCTG 642 - Accounting Research and Communication

Credits: 3

Use of the sources of authoritative guidance in resolving

complex, professionally oriented problems that include auditing, financial reporting, and tax reporting. Students analyze numerous unstructured cases and present their conclusion with written reports and oral presentations.

Note
Students may be enrolled concurrent in ACCTG 442. For accounting majors only.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 342, 433, and 442.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

ACCTG 710 - Foundations of Accounting

Credits: 3

A study of business transactions, including identification of relevant economic events and how those events are recorded in financial statements, and a study of managerial accounting information for decision making, planning, and control.

Note
Not open to Master of Accountancy students.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 205.

Typically Offered
Fall

ACCTG 811 - Advanced Financial Reporting

Credits: 3

An examination of the reporting requirements of large (often multinational) corporations, e.g., foreign currency translation, interim and segment reporting, and business combinations.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 433.

Typically Offered
Fall, Spring

ACCTG 830 - Professional Ethics in Accounting

Credits: 03

Examination of ethical issues in industry and public accounting, including auditing standards, code of professional conduct, fraud, and internal controls.

Repeat for Credit
N

Requisites
Must be admitted to Master of Accountancy (MAcc) program.

Typically Offered
Spring

ACCTG 831 - Fraud and Forensics

Credits: 3

This is a full semester course focused on the tools needed to conduct a fraud-sensitive audit or to conduct a fraud investigation. As a part of this course, the student will learn numerous techniques used by fraudsters to deceive their victims as they misappropriate resources. In addition, the student will learn how to investigate accusations or suspicions of fraud from the initial gathering of evidence to the ultimate resolution of the investigation which could include criminal and/or civil lawsuits. Such understandings are important to the practicing auditor. Given the recent scandals in financial reporting, the auditor needs to be alert to signals of fraud in order to discharge his or her responsibilities to the profession, client, and public.

Repeat for Credit
N

Requisites
Prerequisite: Must have graduate school status.

Typically Offered
Summer

ACCTG 832 - Advanced Auditing

Credits: 3

An in-depth exposure to authoritative auditing pronouncements and specialized topics, e.g., statistical methods, EDP auditing, internal auditing, operational auditing, and audit management.

Repeat for Credit
Y

Requisites
Prerequisite: ACCTG 442 and ACCTG 642.

Typically Offered
Fall

ACCTG 833 - Corporate Taxation

Credits: 3

A study of the federal taxation of corporations with emphasis on tax planning.

Repeat for Credit
Y

Requisites
Prerequisite: ACCTG 342 and ACCTG 642.

Typically Offered
Fall, Spring

ACCTG 834 - Partnership Taxation

Credits: 3

Intensive study of the federal taxation of partnerships.

Repeat for Credit
Y

Requisites
Prerequisite: ACCTG 342 and ACCTG 642.

Typically Offered
Fall

ACCTG 835 - Business Consulting & Advanced Managerial Accounting

Credits: 3

This class develops skills in consulting and advising businesses using advanced managerial accounting techniques and practices

Repeat for Credit
Y

Requisites
Prerequisite: ACCTG 432.

Typically Offered
Fall

ACCTG 840 - Introduction to Academic Accounting Research

Credits: 3

An introduction to academic accounting research, with an emphasis on educational/pedagogical research; practitioner research and basic research (archival, behavioral, and qualitative).

Repeat for Credit
N

Requisites
Prerequisites: ACCTG 642

Typically Offered
Spring

ACCTG 841 - Advanced Accounting Theory

Credits: 3

A critical examination of accounting theory with emphasis upon information economics, agency theory, and capital market information.

Repeat for Credit
Y

Requisites
Prerequisite: ACCTG 641.

Typically Offered
On sufficient demand

ACCTG 842 - Advanced Topics in Taxation

Credits: 3

Intensive examination of selected topics in taxation.

Repeat for Credit
Y

Requisites
Prerequisite: ACCTG 342 and ACCTG 642.

Typically Offered
On sufficient demand

ACCTG 844 - Design of Accounting and Business Information Processes

Credits: 3

This course focuses on understanding and designing contemporary business and information processes in organizations, providing an introduction to database systems, project management and information systems controls and technology.

Repeat for Credit
Y

Requisites
Prerequisite: ACCTG 810, MANGT 830 and instructor permissions for MBA students or ACCTG 331 for Masters of Accountancy students or instructor permission.

Typically Offered
Fall

ACCTG 845 - International Accounting

Credits: 3

An examination of comparative international accounting systems, efforts to harmonize accounting standards internationally, problems of international financial analysis, accounting and tax issues of particular relevance to U.S. multinational enterprises.

Repeat for Credit
Y

Requisites
Prerequisite: ACCTG 342 and ACCTG 641.

Typically Offered
On sufficient demand

ACCTG 846 - International and Multijurisdictional Taxation

Credits: 3

To explore the fundamental principles underpinning the US tax law with regard to multijurisdictional activity (international, interstate). At the conclusion of the course, students should be able to identify, analyze and evaluate the following: The theoretical basis of the U.S. approach to international taxation; the U.S. tax treatment of the foreign activity of U.S. citizens, residents and domestic corporations; the U.S. tax treatment of foreigners engaged in business or investment activity in the U.S.; the key issues surrounding state and local taxation.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 342.

Typically Offered
Spring, Summer

ACCTG 847 - Merger and Acquisition Taxation

Credits: 3

A study of the federal taxation of corporations, with an emphasis on tax planning related to mergers and acquisition.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 342 and ACCTG 642.

Typically Offered
Fall

ACCTG 852 - Accounting Research and Communication

Credits: 3

This is a team taught course that focuses on developing

skills at the higher levels of Bloom's Taxonomy (analysis, synthesis and evaluation) to conduct technical research and communicate the results of that research in both oral and written forms.

Note
May be taken currently with ACCTG 442.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 342 and ACCTG 443.

Typically Offered
Fall, Spring, Summer

ACCTG 855 - Financial Statement Analysis and Business Valuation

Credits: 3

This course is about the analysis of financial information for making decisions to invest in businesses. The methods of fundamental analysis will be examined in detail and applied in cases and projects involving listed companies. Topics include models of shareholder value, a comparison of accrual accounting and discounted cash flow approaches to valuation, the analysis of profitability, growth and value generation in a firm, diagnosing accounting quality, forecasting earnings and cash flows, pro-forma analysis for strategy and planning, and the determination of price/earnings (P/E) and market-to-book (P/B) ratios.

Repeat for Credit
N

Requisites
Prerequisite: Must have graduate school status.

Typically Offered
Fall, Spring, Summer

ACCTG 856 - Accounting Analytics

Credits: 3

This course will develop in-depth knowledge of the use of Microsoft Excel and other technology to analyze complex accounting information. The course will focus on using large volume data sets to simulate real world analytical problem solving.

Repeat for Credit
N

Requisites
Prerequisite: Must have graduate school status.

Typically Offered
Spring, Summer

ACCTG 857 - Accounting for Not-For-Profit Entities

Credits: 3

An introduction to the source of authoritative guidance, rules and regulations that govern current reporting to external entities by not-for-profit entities.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 641.

Typically Offered
Summer

ACCTG 860 - Management Accounting and Business Problem Solving

Credits: 3

A study of managerial accounting information for decision making, planning, and control.

Note
Not open to Master of Accountancy students.

Repeat for Credit
Y

Requisites
Prerequisite: ACCTG 710, ECON 815, FINAN 715, MANGT 710, MANGT 720, MANGT 830, MKTG 705 and STAT 702.

Typically Offered
Fall

ACCTG 870 - Problems in Accounting

Credits: 3

An in-depth study of specified topics in accounting.

Note
Consent of instructor and department head.

Repeat for Credit
Y

Typically Offered
On sufficient demand

ACCTG 884 - Enterprise Information Systems Assurance

Credits: 3

This course focuses on types of assurance available in an enterprise-wide information systems environment and methods for providing assurance from the view of management, external auditors and consultants. Assurance topics discussed include assurances related to systems security, fraud, business and information process integrity, and operational efficiency. Focus is on designing systems to increase the level of inherent assurance as well as auditability. This course also includes a service learning component.

Repeat for Credit
Y

Requisites
Prerequisite: ACCTG 810, MANGT 830 for MBA students or ACCTG 331 for Masters of Accountancy students or instructor permission.

Typically Offered
Spring

ACCTG 890 - Seminars in Professional Accounting

Credits: 1-6

Reviews content and skills for professional certification.

Note
Students should enroll for one credit hour in the first semester they complete the seminar and two credit hours during the second semester they complete the seminar.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ACCTG 895 - Accounting Internship

Credits: 3

This course provides an opportunity for students to experience firsthand the work performed by typical accountants on a day to day basis.

Repeat for Credit
N

Requisites
Prerequisite: Must have graduate school status.

Typically Offered
Fall, Spring, Summer

ACCTG 896 - Accounting International Experience

Credits: 1-6

Students will experience a faculty supervised travel abroad experience that will expose them to international issues related to accounting and general business.

Repeat for Credit
Y

Requisites
Prerequisite: Must have graduate school status.

Typically Offered
On sufficient demand

ADC 200 - Introduction to Addiction

Credits: 3

Analyzes one's knowledge, beliefs, and attitudes concerning addiction, within the

context of professional addiction counseling values and ethics. Examines evidence-based treatment strategies of addiction prevention, treatment, recovery, and relapse. Discusses the impact of addiction on the individual, family, and society.

Repeat for Credit
N

Typically Offered
Fall

ADC 315 - Addiction Pharmacology

Credits: 3

Evaluate drug use in modern society. Understand the impact of commonly-used substances on the body. Review pharmacological treatment approaches to withdrawal, treatment, recovery, and relapse prevention.

Repeat for Credit
N

Typically Offered
Spring

ADC 325 - Professional, Ethical, and Legal Issues in Counseling

Credits: 3

Explores professional, legal, and ethical issues facing addiction counselors or those in similar helping professional roles. Topics include client rights and responsibilities, confidentiality, and other legal considerations. Follows a discussion of general principles of ethics and major principles of professional conduct.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

ADC 395 - Holistic Recovery and Addiction Services Coordination

Credits: 3

Introduces students to holistic recovery and the roles administrators, counselors, and case managers play in assisting clients in achieving their treatment and recovery goals. Explores life challenges that affect a person's ability to enter recovery and maintain it. Examines advocacy skills, coordination of services across multiple systems, and referral activities used to connect clients with community resources.

Repeat for Credit
N

Typically Offered
Fall

ADC 561 - Methods of Individual Counseling

Credits: 3

Provides comprehensive examination of substance use treatment and rehabilitation, and includes a thorough examination of the treatment models of addiction, recovery, and relapse. Equips students with the theoretical basis of treatment and ability to clinically assess individuals with substance-related problems and provide evidence-based interventions.

Note
Instructor permission required

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
SOCWK 561

ADC 562 - Practicum in Addiction Counseling

Credits: 3-10

Integrates and applies knowledge and skills from coursework to addiction counseling settings for a practicum field experience consisting of 400 clock-hours. The practicum experience will consist of clinical activities that

integrate didactic learning supporting the diagnosis and treatment of substance use disorders. Students will be under the supervision of a LAC or LMAC.

Repeat for Credit
Y

Requisites
Corequisite: ADC 564 or SOCWK 564; instructor permission required

Typically Offered
Fall, Spring, Summer

ADC 564 - Professional Seminar

Credits: 2

Integrates academic learning, values exploration and skills acquisition in order to make a successful transition from student to professional. Extensive classroom sharing and discussion will enable students placed in one addiction counseling setting to learn the various facets of the vast array of placement experiences of their classmates.

Repeat for Credit
N

Requisites
Corequisite: ADC 562

Typically Offered
Fall, Spring, Summer

ADC 570 - Methods of Group Counseling

Credits: 3

Provides the theoretical framework for effective practice with groups. Facilitates the development of group leaders who possess an understanding of group dynamics and effective leadership skills. Provides students with opportunities to acquire the knowledge base, values, and practice skills necessary for evidence-based work with multicultural populations. Explores methods to establish group goals and treatment outcomes. Defines stages of group development and the challenges and tasks associated with each stage. Identifies value and ethical dilemmas that are common in group practice.

Note
Instructor permission

Repeat for Credit
N

Typically Offered
Fall, Spring

ADC 575 - Addiction and Family

Credits: 3

Explores family, social, and community systems in relation to substance use disorder problems. Identifies addictive and intergenerational patterns within families and evaluates family, parenting, and couples counseling methods in relation to various ethnicities and cultures.
Reviews relational clinical models including developmental, systemic, solution-focused, and narrative approaches and develops an understanding of the relationship between family factors and recovery.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Social Sciences

ADC 630 - Co-Occurring Disorders and Addictions Treatment

Credits: 3

Explores co-occurring disorders and treatment needs of those who have a psychiatric or mental health disorder in combination with a substance abuse disorder. Examines assessment and treatment of persons with co-occurring disorders, along with evidence-based strategies for managing risks associated with treating individuals who have co-occurring disorders.

Repeat for Credit
N

Typically Offered
Spring

AERO 099 - Aerospace Studies Lab

Credits: 0

Leadership Laboratory (LLAB) is a dynamic and integrated

grouping of leadership developmental activities designed to meet the needs and expectations of prospective Department of the Air Force second lieutenants and complement the AFROTC academic program. It is a student planned, organized, and executed practicum conducted under the supervision of the Detachment Commander and Operations Flight Commander. Objectives are proficiency-based or characterized as task knowledge or performance. It is required to teach all lesson objectives and track the proficiency level for each student using the AFROTC-approved LLAB Objectives Tracker. LLAB objectives may be presented throughout the academic year in any order. Proficiency levels defined for each objective are based on the minimum skill level required for successful completion.

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Fall, Spring

AERO 110 - The Foundation of the United States Air Force - Heritage and Values I

Credits: 1

"Heritage and Values," is a survey course designed to introduce students to the Department of the Air Force (DAF) and provides an overview of the basic characteristics, missions, communications and organization of the Air and Space Forces.

Note
One hour of class a week .Recommended Foundation Course for AERO 111

Repeat for Credit
N

Typically Offered
Fall

AERO 111 - The Foundations of the United States Air Force-Heritage and Values II

Credits: 1

A continuation for AERO 110. Represents the second semester of a two semester class. "Heritage and Values," is a survey course designed to introduce students to the Department of the Air Force (DAF) and provides an overview of the basic characteristics, missions, communications and organization of the Air and Space Forces.

Note
One hour of class a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: AERO 110.

Typically Offered
Spring

AERO 210 - Team and Leadership Fundamentals I

Credits: 1

"Leadership Foundation," provides a fundamental understanding of both leadership and team building. The lessons and course flow are designed to prepare students for field training and leadership positions in the detachment.

Note
One hour of class a week. Recommended Foundation Course for AERO 211

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Human Diversity within the U.S.

AERO 211 - Team and Leadership Fundamentals II

Credits: 1

A continuation for AERO 210. Represents the second semester of a two semester class. "Leadership Foundation," provides a fundamental understanding of both leadership and team building. The lessons and course flow are designed to prepare students for field training and leadership positions in the detachment.

Note
One hour of class a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: AERO 210.

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.

AERO 215 - AFROTC Field Training

Credits: 1-4

Provides cadets with a 13-day program designed to evaluate military leadership and discipline, determine potential for entry into the Professional Officer Course (POC), and stratification amongst their peers.

Repeat for Credit
N

Typically Offered
Summer

AERO 310 - Officer Leadership Studies 3A

Credits: 3

"Leading People," utilizes student's field training experience to take a more in-depth look at leadership. Special emphasis is placed on enhancing communication skills, and why that is important as a leader. Students have an opportunity to try out these leadership and management techniques in a supervised environment as juniors and seniors.

Note
Three hours of class a week.

Repeat for Credit
N

Requisites
Pre-requisite for AERO 311

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

AERO 311 - Officer Leadership Studies 3B

Credits: 3

A continuation for AERO 310. Represents the second semester of a two semester class. "Leading People," utilizes student's field training experience to take a more in-depth look at leadership. Special emphasis is placed on enhancing communication skills, and why that is important as a leader. Students have an opportunity to try out these leadership and management techniques in a supervised environment as juniors and seniors.

Note
Three hours of class a week.

Repeat for Credit
N

Requisites
Prerequisite: AERO 310

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

AERO 410 - Regional Studies and Defense Policy

Credits: 3

Designed for college seniors and provides them the foundation to understand their role as military officers and how they are directly tied to our National Security Strategy. It is an overview of the complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior college level.

Note
Three hours a week.

Repeat for Credit
N

Requisites
Pre-requisite for AERO 411

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Social Sciences

AERO 411 - Aerospace Studies/Civil Military Relationships

Credits: 3

A continuation for AERO 410. Represents the second semester of a two semester class. Designed for college seniors and provides them the foundation to understand their role as military officers and how they are directly tied to our National Security Strategy. It is an overview of the complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior college level.

Note
Three hours of class a week.

Repeat for Credit
N

Requisites
Prerequisite: AERO 410

Typically Offered
Spring

AERO 499 - Problem Solving in Aerospace Studies

Credits: 1-3

Work offered in any of the AFROTC general or professional courses for students out of phase for graduation; material covered in a basic or advanced course.

Note
Instructor consent

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AFRI 400 - African Study Abroad

Credits: 1-4

The study abroad educational trip will provide students the opportunity to apply their knowledge of an African language and to learn first hand about various African societies and cultures, farming systems, environment, health and other issues related to their host country.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

AFRI 501 - Seminar I

Credits: 3

Economics of Poverty and Wealth Creation in Africa (social science component). Explores opportunities for breaking the cycle of poverty across the continent using strategic wealth creation techniques that overcome poverty. Focusing on the agriculture and food system, the environment and natural resources, and the health of the African people.

Repeat for Credit
N

Typically Offered
Fall

AFRI 502 - Seminar II

Credits: 3

African Development. Introduction to current political and economic conditions facing Africa from historical, social, economic, political, and human context. Solutions to the current problems confronting the African continent are analyzed.

Repeat for Credit
N

Typically Offered
Spring

AGCOM 100 - Agricultural Communications Orientation

Credits: 1

Orientation to the agricultural communications and journalism industry, on-campus resources, and college-level skill building.

Repeat for Credit
N

Typically Offered
Fall

AGCOM 110 - Introduction to Agricultural Communications

Credits: 2

Introduction to agricultural communications programs, activities, careers, and trends. This course will cover audience analysis across media platforms, Associated Press writing style, and understanding target audiences.

Note
Two hours lecture per week.

Repeat for Credit
N

Typically Offered
Fall

AGCOM 210 - Layout and Design Principles

Credits: 3

This course uses leading industry-adopted software to develop printed communications pieces to the point of being "printer ready", addressing design concepts and layout aspects critical to successfully printing a project. Assignments will integrate software functionality and design concepts with print production technology requirements.

Note
Lecture.

Repeat for Credit
N

Requisites
Prerequisite: AGCOM 110.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

AGCOM 222 - Agricultural Business Communications

Credits: 3

Written communications as used in agricultural industries. A writing course emphasizing the tools and techniques of writing memos, letters, short and long reports, proposals, and presentations.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 100

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

AGCOM 286 - Topics in Agricultural and Natural Resources Communications

Credits: 0-3

Examination of current topics in undergraduate agricultural communications.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

AGCOM 296 - Problems in Agricultural and Natural Resources Communications

Credits: 1-3

Independent guided studies in any of the many fields associated with agricultural and natural resources

communications.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

AGCOM 300 - Careers in Agricultural Communications

Credits: 3

This course provides students with advanced knowledge regarding careers in agricultural communications. Students will learn about how to find, apply for, and manage a position in agricultural communications, including topics related to job search, professional development, workplace conflict, portfolio development, interview skills, writing in a professional environment, and salary negotiation. An emphasis in workplace ethics through case studies and service learning will be provided.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing AND AGCOM 110 or concurrent enrollment.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

AGCOM 310 - Communicating in the Agricultural Industry

Credits: 3

The purpose of this course is to help students identify the influence of communication styles and theories related to issues in agriculture and natural resources. The course will build skill in oral and visual communication through formal and informal presentations and discussions.

Note
Three hours lecture per week.

Repeat for Credit
N

Typically Offered
Fall

AGCOM 345 - Application of Layout and Printing Techniques in Agriculture and Natural Resources

Credits: 3

This course advances students' understanding of how industry-adopted software and hardware are used to develop printed communications pieces, going from individual application functionality to application integration for developing and managing production projects.

Repeat for Credit
N

Requisites
Prerequisite: AGCOM 210 or MC 341.

Typically Offered
Fall

Cross-listed
MC 345

AGCOM 410 - Agricultural Student Magazine

Credits: 1-5

Planning, interviewing, and preparing stories, headlines, layouts, advertising, and editing, for the *Kansas State Agriculturist* published by students in the College of Agriculture.

Repeat for Credit
Y

Requisites
Prerequisite: AGCOM 345 and MC 200, MC 221 or MC 280.

Typically Offered
Fall, Spring

AGCOM 420 - Topics in Agricultural Communications

Credits: 1-3

Discussions of topics, studies, and activities important to agricultural communications.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGCOM 425 - Undergraduate Research in Agricultural Communications

Credits: 0-3

This course uses qualitative, quantitative or mixed methods to conduct an agricultural and environmental communications research project. A faculty coordinator will assist students through the stages of conducting a research project and reporting its outcomes.

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

AGCOM 435 - Video in Agriculture and Food

Credits: 3

Theory of visual storytelling is combined with basic and intermediate video camera and non-linear editing instruction to produce TV documentaries, magazine-type stories, and personal videos for web and broadcast distribution.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing AND AGCOM 110 or concurrent enrollment.

Typically Offered
Spring

AGCOM 550 - Internship in Agricultural Communications

Credits: 1-3

The intern works in a professional capacity in areas such as print journalism, electronic media, advertising, photography, and public relations. Student is supervised by a professional and a faculty member. One hour of credit for each four weeks of supervised work. Internship report and presentation required.

Note
Independent study. Instructor permission.

Repeat for Credit
Y

Requisites
Prerequisite: AGCOM 300

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility

AGCOM 590 - New Media Technology

Credits: 3

This course focuses on the study and application of emerging "new media" technologies to effectively communicate information and market products and programs to general and targeted audiences. Students will study underlying communication theories such as Roger's Theory of Innovation Diffusion to provide a context of how society adopts and incorporates new technology.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites

Prerequisite: Junior standing AND AGCOM 110 or concurrent enrollment.

Typically Offered
Fall

K-State 8
Social Sciences

AGCOM 600 - Capstone Seminar in Agricultural Communications

Credits: 3

A capstone experience and project for agricultural communications and journalism students. Includes analysis of trends and issues in the field and discussion of communications planning.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisites: AGCOM 310, AGCOM 435, and AGCOM 590.

Typically Offered
Spring

AGCOM 610 - Crisis Communication

Credits: 3

Focus is placed on the application of effective crisis communication practices and techniques. Students will learn relevant interpersonal and organizational communication theory, assess/evaluate organizational risks, and develop a crisis communication plan. Students will partner with a community business to create and deliver a comprehensive crisis plan.

Note
Three hours lecture a week. Prerequisite or instructor permission.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing AND AGCOM 110 or concurrent enrollment

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

AGCOM 635 - Advanced Multimedia Production in Agriculture and Food

Credits: 3

Provides an understanding and application of advanced digital media production techniques. This is a "practicum-based" course focused on creating multimedia products for educational purposes. Students will create short-format, multi-media pieces on both agricultural research and activities conducted at Kansas State University and the Kansas agriculture industry.

Note
Instructor permission.

Repeat for Credit
N

Requisites
Prerequisite: AGCOM 435 or MC 301

Typically Offered
Fall, Spring

AGCOM 650 - Study Experience in Agricultural Communications and Journalism

Credits: 3

Seminar and travel course to prepare students before and after the experience and for students to analyze, critique and report their experiences associated with study tours and short courses.

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGCOM 712 - Environmental Communication

Credits: 3

Combines theoretical discussions with practical experience regarding communication about environmental issues and provides introduction to natural and applied science topics related to the communications plan.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing.

Typically Offered
Spring

Cross-listed
MC 712

AGCOM 716 - Technical Communication in Agricultural Education and Communications

Credits: 1

Audience identification, writing, editing, formatting and production of social science-based materials for publication. Communicating information relevant to human subject research in agriculture, natural resources, and life sciences to research peers.

Repeat for Credit
N

Typically Offered
Spring

AGCOM 717 - Proposal Development in Agricultural Education and Communications

Credits: 1

Assist graduate students in the preparation of their thesis or dissertation research proposal. Students will produce the first three chapters of their thesis by the end of the course.

Repeat for Credit
N

Typically Offered
Spring

AGCOM 718 - Grantwriting in Agricultural Education and Communications

Credits: 1

Experience of navigating the research grant writing process, covering the process from idea conception through planning, proposing, receiving, executing grant-funded projects. Independent grant proposal as a major assignment in this course.

Repeat for Credit
N

Typically Offered
Fall

AGCOM 733 - Graphical Design and Theory in Agricultural Communications

Credits: 3

Graphic design and software skills specific to industries in Agriculture, Food, and Life Sciences using industry-standard software to prepare text and graphics and package them for use in print production.

Repeat for Credit
N

Typically Offered
Summer

AGCOM 738 - Utilizing Online Media in Agricultural Communications

Credits: 3

Identify agricultural audiences, conduct analyses, and use results to evaluate and produce online media that utilizes design fundamentals, visual communication theories, and new media technology.

Repeat for Credit
N

Typically Offered
Summer

AGCOM 786 - Topics in Agricultural Communications

Credits: 1-3

Examination of current topics in agricultural communications.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGCOM 800 - Foundations of Agricultural Communications

Credits: 3

Historical foundations of agricultural communications philosophical concepts, changes over time, industry today and the future. In-depth analysis and discussion of communication theories, application and current issues.

Repeat for Credit
N

Typically Offered
Fall

AGCOM 810 - Scientific Communication

Credits: 3

Written, visual, and oral communications for scientists. Attention is focused on literature reviews, scientific papers, graphics, poster presentations, and oral paper presentations. Grant applications, ethics, and communications with non-science audience are discussed.

Note
Three hours lecture per week. Instructor permission.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing and instructor permission.

Typically Offered
Fall

AGCOM 814 - Graduate Studies in Leadership Communication

Credits: 3

This course examines the intersections of community-engaged scholarship and leadership through practices of relationship, story, strategy, and action. Students are introduced to resources and opportunities for pursuing public engagement, community-engaged scholarship, and successful program completion.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
COMM 814, LEAD 814

AGCOM 815 - Seminar in Leadership Communication

Credits: 1

This seminar provides doctoral students opportunities for collaboration and mentorship with peers, faculty, and visiting scholars, and exploration of career pathways in public engagement.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

Cross-listed
COMM 815, LEAD 815

AGCOM 820 - Communicating Ethical Issues in Agriculture

Credits: 3

This course provides an introduction to communicating ethical theories in the context of agriculture. Ethical theory and current research are used to critique contemporary issues in agriculture.

Note
Three hours of lecture a week.

Repeat for Credit
N

Typically Offered
Spring

AGCOM 830 - New Media Technology

Credits: 3

This course focuses on the study and application of emerging "new media" technologies to effectively communicate information and market products and programs to general and targeted audiences. Students will study underlying communication theories such as Roger's Theory of Innovation Diffusion to provide a context of how society adopts and incorporates new technology.

Repeat for Credit
N

Typically Offered
Fall

AGCOM 840 - Diffusion of Innovations

Credits: 3

This course introduces a structured approach for dealing with the organizational and human aspects of technology transition, including the key concepts of resistance and change management, organizational change, communications, and processes by which professional change agents influence the introductions, adoption, and diffusion of technological change.

Note
Great Plains Ag*IDEA Course Delivery.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

AGCOM 844 - Theory in Agricultural Communications

Credits: 3

The study of major communication theories and theorists in the context of agricultural communications.

Repeat for Credit
N

Typically Offered
Fall

AGCOM 845 - Approaches to Public/Community Engagement

Credits: 3

The course will provide students a survey of key concepts and theoretical frameworks associated with deliberative democracy and public engagement. A specific focus will be given to how forms of community-engaged scholarship intersect course content in both theory and practice.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
COMM 845, LEAD 845

AGCOM 850 - Knowledge Management in Agriculture and Natural Resources

Credits: 3

Knowledge Management is a discipline that takes a comprehensive, systematic approach to the information assets of an organization by identifying, capturing, collecting, organizing, indexing, storing, integrating, retrieving and sharing them. This strategy turns an agricultural and natural organization's intellectual assets into greater productivity and increased competitiveness. It encourages collaboration for the sharing of expertise and knowledge of the best practices. This course examines knowledge management as it is emerging and being applied in agriculture and natural resources.

Repeat for Credit
N

Typically Offered
Spring

AGCOM 890 - Master's Project

Credits: 1-2

The project is designed for students to complete a practitioner-based scholarly project that integrates theory, research and application in relationship to a current need or issue approved by the student's supervisory committee. While research is included in this project, the focus will be on demonstrating an ability to apply the knowledge and skills learned within the context of a for-profit or not-for-profit enterprise, school, community, organization or policy process.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

AGCOM 899 - Master's Thesis

Credits: 1-6

Students investigate an academic problem in their chosen area of interest and document this investigation in a thesis. The investigation integrates and applies knowledge from courses in the program to address unstructured problems. The thesis is a practice in applying scientific criteria on a problem or topic approved by the student's supervisory committee and also is practice in applying scientific methods.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGCOM 916 - Communication Theories and Engagement

Credits: 3

Focusing on the intersections of communication theory and engagement, this course reviews the paradigmatic evolution of communication theories as they relate to culture, organizations, leadership, social influence, emerging media technologies and other pertinent areas. Additionally, students will be exposed to philosophical and theoretical work pertaining to community engaged research.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
COMM 916, LEAD 916

AGCOM 945 - Social Science Research for Public Problem Solving

Credits: 3

This course is a rigorous and applied exploration of the fundamentals of social science research, social sector evaluation, and knowledge mobilization.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
COMM 945, LEAD 945

AGCOM 999 - Research in Leadership Communication

Credits: 1-15

Doctoral research demonstrates the candidate's ability to conduct significant original research related to leadership and communication, to analyze the information obtained from the research, and to present the results in a dissertation format appropriate to the field.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

Cross-listed
COMM 999, LEAD 999

AGEC 100 - Special Topics in Agricultural Economics/Agribusiness

Credits: 0-6

Seminars of special interest. Will be offered upon sufficient

demand in selected areas relating to agricultural economics and agribusiness.

Repeat for Credit
Y

Typically Offered
Fall, Spring

AGEC 105 - Agricultural Economics and Agribusiness Orientation

Credits: 1

Introduction to agricultural economics and agribusiness programs, activities, resources, and careers. Required of all freshmen in agricultural economics or agribusiness at K-State.

Note
Meets first half of the semester.

Repeat for Credit
N

Typically Offered
Fall

AGEC 115 - Decision Tools for Agricultural Economics and Agribusiness

Credits: 2

Development of foundational computer-based empirical skills that address economic and business issues in food and agriculture. Students will learn how to model information on an issue or problem using mathematical spreadsheets to find relevant answers for decision makers and stakeholders.

Note
Two hours recitation per week.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

AGEC 120 - Agricultural Economics and Agribusiness

Credits: 3

A course suggested for all students interested in the agricultural economy. A study of economic principles, with emphasis on their application to the solution of farm, agribusiness, and agricultural industry problems in relationship to other sectors of the United States economy and foreign countries.

Note
Two hours lecture and one hour recitation per week.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
5 Social and Behavioral Sciences

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

AGEC 121 - Honors Agricultural Economics and Agribusiness

Credits: 3

A course suggested for all honors students interested in the agricultural economy. A study of economic principles, with emphasis on their application to the solution of farm, agribusiness, natural resource and agricultural industry problems in relationship to other sectors of the United States economy and foreign countries. The course will include extensive discussion, writing, and computer assignments on application of economic principles to real-world problems and issues.

Note
Three hours lecture a week. Prerequisite or instructor permission and eligible for honors program.

Repeat for Credit
N

Requisites
Prerequisite: Admitted to university honors or college scholars program

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

AGEC 202 - Small Business Operations

Credits: 3

Opportunities in business ownership, principles governing the starting of a small enterprise; importance, status, problems, and management of a small business.

Note
For non-majors.

Repeat for Credit
N

Requisites
Prerequisite: ECON 110 or AGEC 120 or AGEC 121 or ECON 120.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Human Diversity within the U.S.

AGEC 220 - Grain and Livestock Marketing Systems

Credits: 3

Survey of the institutions and mechanisms that facilitate and regulate the sale and marketing of grain and livestock commodities. Topics include the physical and informational flows in the commodity supply chains, cash pricing, commodity grades to improve market efficiency and the governmental regulations and agencies influencing commodity trading.

Note
Intended for non-majors.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 120 or AGEC 121 or ECON 120.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Global Issues and Perspectives

AGEC 308 - Farm and Ranch Management

Credits: 3

Decision-making process, cost concepts, farm records and financial management, budgeting, time value of money, and introduction to whole farm/ranch planning.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 120 or AGEC 121 or ECON 120.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems

Credits: 3

A survey of contemporary economic issues affecting world agricultural systems including population growth, trade, globalization, natural resource and environmental policy.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 120, AGEC 121, ECON 110, or ECON 120.

Typically Offered

Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

AGEC 318 - Food and Agribusiness Management

Credits: 3

A study of marketing, production, risk, human resource management, and financial management in agribusiness firms. Particular attention is given to the application of economic principles to the management of marketing and farm supply firms.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 120 or AGEC 121 or ECON 120; and MATH 100.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

AGEC 411 - Agricultural Policy

Credits: 3

Institutional and analytical treatment of historical and current economic problems, public policies and government programs affecting agriculture and rural America.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 120 or AGEC 121 or ECON 120 or ECON 110.

Typically Offered
Fall

K-State 8
Historical Perspectives

AGEC 420 - Commodity Futures

Credits: 3

This course is designed to introduce students to the purpose, operation, and use of commodity futures and options markets. The objectives are to: (1) understand why futures exchanges and commodity futures contracts exist; (2) understand and be able to forecast basis; (3) understand hedging and be able to design hedging strategies for various commodity producers and users; (4) understand both put and call options and their potential use in a commodity risk management program; and (5) understand the usefulness and shortcomings of fundamental and technical analysis.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 120 or AGEC 121 or ECON 120.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Global Issues and Perspectives

AGEC 441 - Agricultural Economics and Agribusiness Seminar

Credits: 1-18

Seminars of special interest will be offered upon sufficient demand in selected areas relating to agricultural economics and agribusiness or competitive teams qualifying for academic credit.

Repeat for Credit
Y

Typically Offered
Other

AGEC 445 - Agribusiness Internship

Credits: 1-3

Approved and supervised work-study programs in various areas of agribusiness.

Note

Project reports required. Instructor permission.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGEC 450 - Agricultural Economics and Agribusiness Problems

Credits: 1-18

Agricultural Economics and Agribusiness Problems

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGEC 460 - International Food and Agribusiness Study Tour

Credits: 0-6

An experiential learning course to prepare students for and to immerse them in an international study tour of selected food and agribusiness industries. The topics vary by the tour and the industries studied.

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives

AGEC 470 - Cooperative Management

Credits: 3

This course focuses on the unique aspects of the cooperative business model and its evolution over time. Students will utilize course material to gain a deeper understanding of the history and need for cooperatives by applying economic, finance, marketing, and management tools to cooperatives.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 120 or AGEC 121 or ECON 120.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Historical Perspectives

AGEC 480 - Farm and Ranch Income Tax Management

Credits: 3

This course introduces unique income tax provisions that apply to commercial agricultural producers. Students will better understand the importance of accounting records, the income tax impact of farm management decisions, and tools available to manage income taxes. Emphasis will also be placed on the importance of considering income taxes when planning for transition of the family farm or ranch from one generation to the next.

Note
3 hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 231,and AGEC 308 or AGEC 318

Typically Offered
Fall

AGEC 500 - Production Economics

Credits: 3

Application of economic principles to problems of agricultural production. Analysis of consumer demand for agricultural products and input and output decisions of the agricultural firm. AGEC 505 is a continuation of this course and they are intended to be taken in consecutive

semesters.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 120 or AGEC 121 or ECON 120 and MATH 205. Recommended Foundation Course: AGEC 115.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

AGEC 501 - Data Analysis and Optimization

Credits: 3

Analysis of agricultural business and economic data and optimization for decision making. Study applications of regression, time series analysis and forecasting to agricultural and economic data. Introduction to mathematical programming to model optimization of problems commonly encountered in agricultural economics.

Note
Three hours recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 115, AGEC 120 or AGEC 121 or ECON 120, MATH 205, STAT 250.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

AGEC 505 - Agricultural Market Structures

Credits: 3

Theory and application of economic principles to marketing problems in agriculture. Pricing of agricultural output and productive services under various forms of economic organization and competition; regional specialization, location, and trade; determinants of economic change; evaluation of economic and consumer welfare.

Note
Three hours lecture.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 120 or AGEC 121 or ECON 120 and MATH 205 and AGEC 500. Recommended Foundation Course: AGEC 115.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

AGEC 513 - Agricultural Finance

Credits: 3

Analysis of capital investments, interpretation of financial statements, capital structure considerations for agricultural firms, and farm real estate pricing.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 308 or AGEC 318 and ACCTG 231. Recommended Foundation Course: AGEC 115.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

AGEC 515 - Food and Agribusiness Marketing

Credits: 3

A broad view of marketing; food markets and consumption; marketing functions and institutions; prices, competition, and marketing costs; functional and organizational issues; food marketing regulations; commodity marketing.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 120 or AGEC 121 or ECON 120.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

AGEC 516 - Agricultural Law and Economics

Credits: 3

The legal framework for decision making by farm firms, families, and individuals; liabilities, real and personal property, contracts, uniform commercial code, organization of farm firms, intergeneration property transfers, water law, fence law, federal and state regulatory power, insurance, income tax, and social security.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ECON 110 or AGEC 120 or AGEC 121 or ECON 120 and junior standing.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility

AGEC 520 - Market Fundamentals and Futures/Options Trading

Credits: 3

This is an experiential course in the trading of commodity futures and options. Attention is focused on the study of market price determination, the implications of market efficiency notions, and on actual trading of futures and options. Students invest in a commodity educational trading fund. Class approves recommendations by vote, orders are placed with a broker, and the class monitors open trades. The pool balance at the end of the semester is redistributed to students.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 420.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

AGEC 525 - Natural Resource and Environmental Economics

Credits: 3

Emphasis on the application of demand, supply, and price concepts in the study of natural resource use, policies, and management. Interdependence between environmental quality and economic actions are examined through discussion of property rights, economic incentives, externalities, and economic components of environmental policies.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 120 or AGEC 121 or ECON 120 or ECON 110 and junior standing.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

AGEC 535 - Agricultural Sales

Credits: 3

Agricultural Sales will introduce students to the role of sales and sales management in the agricultural industry.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 120 or ECON 120 or AGEC 121 or ECON 110.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

AGEC 541 - Agricultural Economics and Agribusiness Seminar

Credits: 0-18

Seminars of special interest will be offered upon sufficient demand in selected areas relating to agricultural economics and agribusiness.

Repeat for Credit
Y

Typically Offered
Other

AGEC 550 - Undergraduate Research in Agricultural Economics

Credits: 0

Mentored undergraduate research experience in agricultural economics and agribusiness.

Note
Consent of instructor.

Repeat for Credit
Y

Requisites
Prerequisite: AGEC 120 or AGEC 121 or ECON 120

Typically Offered
Fall, Spring, Summer

AGEC 560 - Data Analytics for Agricultural Economics

Credits: 3

Advanced collection and applied analysis of agricultural business and economics data for decision making. Applied communication of results and implications.

Note
Students who have not completed AGEC 501 may secure instructor consent if they can verify a working knowledge of regression.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 501

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

AGEC 570 - Food Manufacturing, Distribution, and Retailing Economics

Credits: 3

Advanced study of the economic and business aspects of the food industry from processing to distribution to retailing. Emerging trends in nutrition, food consumption, food safety and supply chain arrangements along with management and marketing issues in the food industry will be studied.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 318 or MANGT 220.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

AGEC 598 - Farm Management Strategies

Credits: 3

A study of management concepts, tools, and decision strategies applied to farm firms. Alternative measures of farm business performances, as well as planning and evaluation techniques for an uncertain environment, are examined.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 308, AGEC 500, and AGEC 513 or FINAN 450.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

AGEC 599 - Food and Agribusiness Management Strategies

Credits: 3

This course integrates the risk, production, marketing, and financial management strategies of agribusiness firms. Special attention is given to the application of economic theory and quantitative analysis to business decision-making processes. In addition to case studies, a variety of analytical techniques will focus on both markets and firms involved in the production and marketing of food commodities.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 318, AGEC 500, and either AGEC 513 or FINAN 450. Recommended Foundation Course: AGEC 515.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Global Issues and Perspectives

AGEC 605 - Price Analysis and Forecasting

Credits: 3

The analysis of selected agricultural prices; application of regression analysis to price analysis, the role of futures markets and market efficiency, optimal hedging strategies, commodity option pricing, and price forecasting.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: A course in statistics; AGEC 501; AGEC 505 or ECON 520.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Historical Perspectives

AGEC 610 - Current Agriculture and Natural Resource Policy Issues

Credits: 3

Current issues in agricultural and natural resource policy from divergent perspectives. Classroom discussion, debate, writing assignments, and student presentations. Current events are analyzed and synthesized from both economic and noneconomic perspectives. Topics may include environmental issues, international agricultural development, the politics of farm programs, and the relationship between technology, agriculture, and society.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 505 and either AGEC 525 or AGEC 411.

Typically Offered
Fall

K-State 8
Social Sciences

AGEC 615 - Global Agricultural and Economic Development

Credits: 3

This course covers contemporary challenges in global development, with an emphasis on agricultural issues. Students will analyze problems using economic models, and develop empirical skills by learning key data collection concepts, and working with survey data. Topics include poverty, technology adoption, agricultural policy, health, and program evaluation.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 315 and AGEC 500.
Prerequisite OR Corequisite: AGEC 501.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

AGEC 623 - International Agricultural Trade

Credits: 3

Applied economics of agricultural trade. Emphasis on why trade occurs, current agricultural trade patterns, the effects of agricultural policy on trade, and the institutions of trade.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 505.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Global Issues and Perspectives

AGEC 632 - Agribusiness Logistics

Credits: 3

Planning for efficient use of transportation, storage and processing facilities in the handling of raw materials and products for agribusiness firms, controlling shipments and inventory in coordination with warehouse and handling operations, and scientific selection of routes, schedules, and equipment.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 120 or AGEC 121 or ECON 120, and junior standing.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Historical Perspectives

AGEC 641 - Agricultural Economics and Agribusiness Seminar

Credits: 1-18

Seminars of special interest will be offered upon sufficient demand in selected areas relating to agricultural economics and agribusinesses.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing and instructor permission.

Typically Offered
Other

AGEC 680 - Risk Management

Credits: 3

Analytical concepts and quantitative tools to make better decisions in risky situations. Identifying various types of risk an operation faces, measuring the degree of risk, and exploring ways to manage risk. Includes portfolio analysis, futures and options, contracting, and insurance. Emphasis on computer applications. Topics are focused on agriculture

but are applicable to other industries and household decisions.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 420, AGEC 513 or FINAN 450, and a course in statistics.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

AGEC 700 - Applied Agribusiness Economics

Credits: 3

Applications of economic principles to problems of agricultural production and agribusinesses. Demand theory and economic forecasting will be used to examine changes in demand and business trends. Cost minimization and profit maximization will be used to examine firm and market issues.

Repeat for Credit
N

Requisites
Prerequisite: MATH 100, ECON 120 or AGEC 120.

Typically Offered
Summer

AGEC 701 - Introduction to Computer Decision Tools for Agribusiness

Credits: 1

Development of decision tools for agribusiness using spreadsheets. Topics include internet as a data source, budget development and analysis, financial calculations, regression, search techniques, and optimization.

Repeat for Credit
N

Requisites
Prerequisite: CIS 110.

Typically Offered
Spring

AGEC 710 - Comparative Food and Agriculture Systems

Credits: 3

This course provides a comparative analysis of the business and economic situation of the food and agriculture sector around the world. The course will cover the European Union, the Former Soviet Union, MERCORSUR, and Southeast Asia, Oceania and possibly other regions. The course will focus briefly on the historical development, the current situation, and the future outlook of the food and agriculture sector. Upon completion of this course, students will be able to evaluate the comparative advantage of the United States in the production of food and fiber.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 120 or AGEC 121 or ECON 120.

Typically Offered
Spring, Summer

K-State 8
Global Issues and Perspectives
Historical Perspectives

AGEC 712 - Optimization Techniques for Agricultural Economics

Credits: 3

Application of optimization techniques including linear programming and nonlinear programming for research and decision analysis in agricultural economics.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 500 and AGEC 501, or graduate standing.

Typically Offered
Spring

AGEC 713 - Agribusiness Financial Management

Credits: 3

This course covers financial management, long-term investment analysis, the performance of alternative investments, and the theory of efficient markets. Topics covered include comparative financial analysis, short-term budgeting, and capital budgeting. Applications include agribusiness decision making and project analysis.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 231, AGEC 513.

Typically Offered
Spring

AGEC 720 - Agribusiness Risk Management

Credits: 3

Various forms of risk inherent to firms operating in agricultural and food product markets are explored. Risk management techniques including diversification, insurance, forward contracting, hedging and options are examined through applied problems with the use of simulation. Emphasis is placed on managing risk associated with input prices, output prices, enterprise organization and financial instruments.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 713 and AGEC 761.

Typically Offered
Fall

AGEC 730 - Applied Agribusiness Logistics

Credits: 3

A study of agribusiness logistics and the fundamental concepts underpinning logistical decisions and their impact on a firm's sustainability. Topics include supply chain management, transportation and storage, contracting and out sourcing, strategic logistic planning, network analysis, and B2B e-commerce in food and agriculture. Focus will be on agribusiness logistics issues in grain and grain-based food supply chains and in the livestock and meat supply chains, including global logistics.

Repeat for Credit
N

Requisites
Prerequisite: AGEC 120 or ECON 120, and AGEC 505.

Typically Offered
Spring

AGEC 735 - Sales and Marketing in the Global Animal Health Industry

Credits: 3

This course is designed to introduce students to marketing and sales in the complex world of animal health industry. Understanding product life cycles; product development; forecasting; planning; positioning and branding; as well as promotion and compliance. Markets addressed include business to business food animal markets and companion animal consumer markets.

Repeat for Credit
N

Typically Offered
Summer

AGEC 740 - Seminar in Agricultural Economics Analysis

Credits: 0-18

Seminar on methods of economic analysis.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

AGEC 750 - Agricultural Economics and Agribusiness Problems

Credits: 1-18

Agricultural Economics and Agribusiness Problems

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing and consent of the instructor.

Typically Offered
Fall, Spring, Summer

AGEC 751 - Risk Management Fellows Seminar

Credits: 1

This course serves as The Center for Risk Management Education and Research Student Fellows seminar course. Students will conduct a risk management research project.

Note
Consent of the instructor.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing, admitted to the Risk Management Fellows Program

Typically Offered
Fall, Spring, Summer

AGEC 760 - Applied Econometric Analysis

Credits: 3

Use of econometrics to enhance agribusiness decision making is the focus. Concepts of simple and multiple regression and limited dependent variable models are presented. Econometric issues of functional form, relevant variables, predictive performance, and model diagnostics will be examined. Numerous applications of techniques to agribusiness problems are used.

Repeat for Credit
N

Requisites
Prerequisite: STAT 225 and AGEC 701.

Typically Offered
Spring

AGEC 761 - Optimization Techniques for Agribusiness

Credits: 2

This course is an introduction to optimization techniques designed to provide quantitative support for agribusiness decision making. Upon completion of this course, students will be able to construct and evaluate optimization models useful for evaluating linear problems, integer problems, and nonlinear program.

Repeat for Credit
N

Requisites
Prerequisite: STAT 225 and AGEC 701.

Typically Offered
Fall

AGEC 770 - International Agribusiness and Policy Analysis

Credits: 3

Policies affecting agribusiness firms will be examined. These topics may include U.S. agricultural policies, fiscal and monetary policies, international trade agreements, environmental issues, and current policies influencing agribusiness firms.

Repeat for Credit
N

Requisites
Prerequisite: ECON 110 and AGEC 701.

Typically Offered
Fall

AGEC 780 - Economics of the Global Animal Health Industry

Credits: 3

Economic Issues in the Global Animal Health Industry (AGEC 780) provides a forum to study the economics and business challenges and opportunities confronting the animal health industry. Policy issues in the various significant animal sectors are examined to provide tools to develop the appropriate responses to ensure **sustainable superior performance**.

Repeat for Credit
N

Typically Offered
Spring

AGEC 805 - Agricultural Marketing

Credits: 3

The study of the demand for supply of agricultural commodities, alternative market structures, the dynamics of marketing institutions that affect market structures, governmental intervention in agricultural markets, futures markets in agriculture, and international agricultural commodities trade.

Repeat for Credit
Y

Requisites
Prerequisite: AGEC 505 or ECON 520.

Typically Offered
Spring

AGEC 810 - Price, Income and Trade Policies in Agriculture

Credits: 3

This course examines the effects of agricultural policies on the welfare of society and the distribution of benefits and costs within the global market. Modern tools are developed to examine the causes and consequences of policies.

Repeat for Credit
Y

Requisites
Prerequisite: AGEC 500 or ECON 520, ECON 510.

Typically Offered
Spring

AGEC 812 - Advanced Farm Economics

Credits: 3

A study of managerial techniques and processes applied to farm firms involved in production and marketing of agricultural products. This study includes managerial planning, evaluation, and control of farm businesses.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: AGEC 308.

Typically Offered
Fall

AGEC 815 - International Agricultural Development

Credits: 3

To study the principles of economic development when applied to the development of the agricultural sector. This includes the examination of national and international strategies and policies that inhibit and/or encourage the development of the agricultural sectors in low income countries. Individual study is encouraged to meet student interest: (a) in understanding the process and including an appreciation of the interdependence between low and high income countries and (b) receiving an introduction to agricultural project analysis.

Repeat for Credit
Y

Requisites
Prerequisite: AGEC 500 or ECON 520.

Typically Offered
Spring-Even Years

AGEC 823 - Production Economics II

Credits: 3

Economic theories of choice under conditions of imperfect knowledge (i.e. under risk and uncertainty) and the application of these theories to production decisions.

Repeat for Credit
Y

Requisites
Prerequisite: AGEC 500 or consent of instructor.

Typically Offered
Fall

AGEC 825 - Natural Resource Policy

Credits: 3

The economic tolls of welfare analysis, non-market valuation, and dynamics are used to evaluate natural resource use, natural resource policies, and conflicts among users, conservationists, and preservationists.

Repeat for Credit
Y

Requisites
Prerequisite: AGEC 505 or ECON 520; and MATH 205.

Typically Offered
Fall

AGEC 840 - International Markets and Agricultural Trade

Credits: 3

International Markets and Agricultural Trade bridges the fundamental concepts of international trade with the practical analysis of trade policies. The course seeks to develop a solid foundation for future practitioners at industry or public institutions and for those who will undertake more in-depth empirical research involving trade issues.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 720.

Typically Offered
Fall

AGEC 880 - Agribusiness Industry Structures

Credits: 3

Applied industrial organization and competitive relationships in agriculture markets. Emphasis on the role of bargaining power, vertical coordination and integration, contracting, and other forms of vertical control. Product differentiation, branding and advertising of commodities and anti-trust laws.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 720, ECON 830 (or concurrent enrollment).

Typically Offered
Spring

AGEC 890 - Advanced Food and Agribusiness Management

Credits: 3

The objective of the course is to demonstrate how economic concepts underscore strategic management principles. Applications to food and agribusiness firms are used to show how managers and firms function when the assumptions of perfect competition are relaxed. Students will complete a market analysis study as part of the course requirements.

Repeat for Credit
Y

Requisites
Prerequisite: AGEC 599.

Typically Offered
Fall

AGEC 898 - Agricultural Economics Master's Report

Credits: 1-18

Master's report.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGEC 899 - Agricultural Economics Master's Research

Credits: 1-18

Research for master's thesis.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGEC 901 - Research Methods in Economics

Credits: 3

A study of scientific methodology in economic research including the history of various debates regarding methodology in economics. The course also deals with problem definitions, formulation of hypotheses, listing of hypotheses, and presentation of research results.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Spring

AGEC 905 - Agricultural Demand and Commodity Marketing

Credits: 3

A study of the demand for and supply of farm products, price information and markets, the causes of price variations and instability, the dynamic analysis of agricultural prices.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: AGEC 805, ECON 930, ECON 945.

Typically Offered
Spring

AGEC 923 - Economics of Agricultural Production

Credits: 3

A study of agricultural production response to prices; methods of estimating supply response and price expectations; the effects of government and institutions on agricultural supply and the role of risk, technical change, and the number and size of farms on agricultural supply.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 830, AGEC 823, ECON 945.

Typically Offered
Fall

AGEC 925 - Advanced Resource and Environmental Economics

Credits: 3

Dynamics analysis of natural resource and environmental problems, including the optimal extraction of nonrenewable resources, optimal management of renewable resources, and the optimal regulation of stock pollutants.

Note
Three hour recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 905, ECON 945.

Typically Offered
Spring

AGEC 936 - Quantitative Topics in Agricultural Economics

Credits: 3

A study of recent developments reported in the literature concerning quantitative methods of analysis in agricultural economics and economics. The study will include assigned projects to apply selected techniques of analysis.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 930.

Typically Offered
Spring

AGEC 940 - Seminar in Agricultural Economics

Credits: 1-18

Problems and current developments in agricultural economics.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

AGEC 955 - Independent Study of Advanced Topics in Agricultural Economics

Credits: 1-18

Advanced independent study of an agricultural economics topic based upon a student proposal approved by the student's supervisory committee

Repeat for Credit
Y

Requisites
Prerequisite: Completion of 24 credits of graduate study.

Typically Offered
Fall, Spring, Summer

AGEC 999 - Agricultural Economics PhD Research

Credits: 1-18

Research for Ph.D. Dissertation.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGED 100 - Orientation in Agricultural Education

Credits: 1

Develop an understanding to the expectations of college and program responsibilities. A foundation of the high quality teaching and secondary agriculture programs. Active learning will include discussions, applications and a day long tour of education systems.

Note
Required of all freshmen entering the Agricultural Education major.

Repeat for Credit
N

Requisites
Prerequisite: Agricultural Education majors only

Typically Offered
Fall

AGED 101 - Foundations of Diversified Agriculture

Credits: 1

Exploration of the program requirements, responsibilities, methodology, organization, current trends, and issues. Active involvement in discussions of the agriculture industry and design a program plan to meet career aspirations.

Repeat for Credit
N

Typically Offered
Fall

AGED 210 - Equipment and Material Management

Credits: 1

Provides a foundation for teaching and managing laboratories related to power, structural and technical systems. Laboratory safety procedures and practices will be applied to the instructional setting. Includes material selection & management, project planning & design and facility management.

Repeat for Credit
N

Requisites
Prerequisite: Agricultural Education Major.

Typically Offered
Fall, Spring

AGED 286 - Topics in Agricultural Education

Credits: 0-3

Examination of current topics in undergraduate agricultural communications.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

AGED 296 - Problems in Agricultural Education

Credits: 1-3

Independent guided studies in any of the many fields associated with agricultural education.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

AGED 300 - Introduction to Agricultural Education

Credits: 1

Introduction to the program responsibilities, methodology, organization, current trends and issues, and future direction of programs in agricultural education. Students will be actively involved in the discussion and application of course material both in the classroom and in early field experiences conducted as a part of this course.

Repeat for Credit
N

Typically Offered
Fall

AGED 301 - Diversified Agriculture Foundations

Credits: 1

Discussion and exploration of the program requirements, distance learning considerations, organization, current trends, and issues. Design a program plan to meet career aspirations in the agriculture industry.

Repeat for Credit
N

Typically Offered
Fall, Spring

AGED 305 - Field Experience in Agricultural Education

Credits: 1

A course for prospective teachers to help bridge the gap between classroom theory and student teaching. Emphasis will be on observation of and participation in school and community organizations and programs.

Repeat for Credit
N

Requisites
Prerequisite: AGED 100 or AGED 101 or AGED 300 or AGED 301 or concurrent enrollment.

Typically Offered
Fall, Spring

AGED 400 - Leadership and Professional Development in Agricultural Education

Credits: 2

This course provides an introduction to the leadership skills needed in the role of FFA advisor and professional agricultural educator including career, professional, and student leadership development and FFA chapter management.

Repeat for Credit
N

Requisites
Prerequisite: Agricultural Education Major

Typically Offered
Spring

AGED 430 - Leadership Development in Agricultural Youth Organizations

Credits: 3

Facilitate leadership development in youth through participation in FFA. Explores youth development stages, how to help youth grow their leadership skills through agriculture youth organizations and activities, and organizational structures.

Repeat for Credit
N

Requisites
Agricultural Education majors only

Typically Offered
Fall or Spring

AGED 433 - Agricultural Project Management

Credits: 3

Applied project management methodology, tools, and techniques for agricultural industries. Project organization, planning, execution, and communications; the project life cycle; risk analysis; and best practices in project management.

Repeat for Credit
N

Typically Offered
Fall or Spring

AGED 434 - Undergraduate practicum in agricultural-related occupations

Credits: 1-3

Related occupational or professional experiences in approved industry, school, Cooperative Extension Service, or similar agency setting under faculty supervision.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Summer

AGED 486 - Topics in Agricultural Education

Credits: 0-3

Examination of current topics in undergraduate agricultural education.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGED 490 - Undergraduate Research in Agricultural Education

Credits: 0-3

This course uses qualitative, quantitative or mixed methods to conduct an agricultural education research project. A faculty supervisor will assist students through the stages of identifying, conducting and reporting the results of a social science research project connected to an agricultural

education topic.

Note
Instructor permission

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

AGED 500 - Methods of Teaching Agriculture in the Secondary and Middle Schools

Credits: 3

Principles of teaching applied to content area instruction in the secondary and middle schools; motivation; organization of subject matter; lesson planning; evaluation and reporting; challenging the levels of ability; organization and management of the classroom; methodology and materials of the secondary schools.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 315, EDSP 323, and EDCI 320. Concurrent enrollment required for EDSEC 455, EDSEC 477, AGED 520, AGED 600, and EDSEC 525.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

AGED 520 - Block II Lab: Content Area Methods and Field Experience

Credits: 2

This field-based experience provides the opportunity for students to plan, teach, and evaluate agricultural education lessons within a placement at the middle or secondary level. This practicum also requires students to incorporate reading methods and apply instructional technology in their instruction.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 315, EDSP 323, and EDCI 320. Concurrent enrollment required for EDSEC 455, EDSEC 477, AGED 500 and EDSEC 525.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

AGED 533 - Educating the Public about Agriculture

Credits: 3

Organization and preparation of materials and methods used in educating public audiences about agriculture through non-formal settings, businesses, and extension disciplines.

Repeat for Credit
N

Typically Offered
On sufficient demand

AGED 537 - Planning Programs in Extension & Non-Formal Education

Credits: 3

Principles and procedures used in planning and conducting Extension programs. Including workshops, traninings, and 4-H programing.

Repeat for Credit
N

Typically Offered
Fall, Spring

AGED 600 - Senior Seminar in Agricultural Education

Credits: 1

Discussion and application of Block II learning outcomes in the student to professional educator transition. Topics will include professional development, licensure, professional opportunities and the community of Agricultural and Extension Education.

Repeat for Credit
N

Requisites
Requisite: AGED 500

Typically Offered
Fall

AGED 615 - Laboratory Instructional Techniques in Teaching AgriScience

Credits: 3

Provides knowledge and skills to design, organize, and conduct programs in agriscience instruction in secondary agricultural education. Experiences in lab planning, safety and student management.

Repeat for Credit
Y

Typically Offered
Fall, Summer

AGED 620 - Principles and Philosophy in Agriculture and Career and Technical Education

Credits: 2

Principles of career and technical education in Kansas and other states and countries; principles and philosophy underlying such education, relation of career and technical education to school objectives and community, state, and national needs.

Repeat for Credit
N

Typically Offered
Fall, Summer

Cross-listed
EDSEC 620

K-State 8
Historical Perspectives

AGED 621 - Program Planning in Agricultural Education

Credits: 3

The program development and planning process; development of guides for teaching and evaluating reimbursable secondary programs.

Repeat for Credit
N

Requisites
Agricultural Education majors only.

Typically Offered
Fall

AGED 625 - Inquiry-Based Curriculum in Agricultural STEM and Biotechnology Education

Credits: 2

Provides students with knowledge of inquiry-based techniques related to STEM and Biotechnology in the context of Agriculture. Students will experience activities, labs, and projects developed for inclusion in secondary agriculture classrooms. The learning environment will be grounded in specific agricultural content area, offered on a rotational basis (ex.comprehensive agriculture, animal systems, plant systems, ag power and technology, etc).

Repeat for Credit
Y

Requisites
Agricultural Education Majors only

Typically Offered
Fall, Summer

AGED 630 - Exploration of Global Agricultural Education

Credits: 3

Education Abroad for the exploration of the agriculture industry and agricultural education system in an international location.

Repeat for Credit
Y

Typically Offered
Spring, Summer

AGED 635 - Inquiry and Literacy in Agricultural STEM and Biotechnology

Credits: 3

Knowledge of inquiry-based instruction in STEM and Biotechnology in the context of Agriculture. Literacy and reading techniques will be highlighted. Includes activities, labs, projects, and literacy developed for inclusion in secondary agriculture classrooms.

Repeat for Credit
N

Requisites
Agricultural Education majors only

Typically Offered
Fall or Spring

AGED 704 - Extension Organization and Programs

Credits: 3

Development and objectives of Cooperative Extension and other university adult education programs; with emphasis on programs and procedures.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing.

Typically Offered
On sufficient demand

AGED 705 - Organization Problems in Teaching Agricultural Mechanics

Credits: 2-3

Analysis of the agricultural mechanics course of study; needs and interests of students; learning difficulties; skills and technical knowledge required; correlation with agriculture; application of laws of learning to the teaching process; determination of objectives.

Repeat for Credit
N

Requisites
Prerequisite: EDSEC 586.

Typically Offered
On sufficient demand

AGED 706 - Principles of Teaching Adults in Extension

Credits: 3

Methods and principles of adult teaching with emphasis on Cooperative Extension Service; application to various adult education programs.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing.

Typically Offered
On sufficient demand

AGED 732 - Leadership Analysis Through Film

Credits: 3

Builds upon the study of leadership theory by allowing students to analyze, reflect, synthesize, and apply leadership theories, models and concepts in the context of film. The course materials encourage students to reflect, synthesize, analyze, and apply the information learned from major leadership theories and apply them to various scenarios and situations demonstrated in selected films.

Repeat for Credit
N

Typically Offered
Summer

AGED 734 - Practicum in Agriculture-Related Occupations

Credits: 1-6

Related occupational or professional experiences in approved industry, school, Cooperative Extension Service, or similar agency setting under faculty supervision.

Note

Consent of instructor

Repeat for Credit
N

Typically Offered
On sufficient demand

AGED 735 - Methods of Technological Change in Agriculture

Credits: 3

Structured approach for dealing with the organizational and human aspects of technology transition, including the key concepts of resistance and change management, organizational change, communications, and processes by which professional change agents influence the introductions, adoption, and diffusion of technological change.

Repeat for Credit
N

Typically Offered
Fall, Spring

AGED 736 - Practicum in Extension Education

Credits: 1-6

Related occupational or professional experiences in approved industry, school, Cooperative Extension Service, or similar agency setting under faculty supervision.

Note
Consent of instructor

Repeat for Credit
N

Typically Offered
On sufficient demand

AGED 737 - Teaching Diverse Learners in Agricultural Education

Credits: 3

Practical application of learning theories as they apply to diverse learners. Specific instruction relevant to secondary agricultural instructors such as Supervised Agricultural Experience Projects through the lens of diverse students, global leadership and intercultural competence.

Repeat for Credit
N

Typically Offered
Summer

AGED 738 - Assessing Learning in Agricultural Education

Credits: 3

Develop an understanding and application of assessment relevant to agricultural education. Students develop, administer, and analyze formal, informal, and performance assessment techniques to monitor and evaluate student learning and guide modification.

Repeat for Credit
N

Typically Offered
Spring

AGED 786 - Topics in Agricultural Education

Credits: 1-3

Examination of current topics in agricultural education.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGED 790 - Agricultural Education Methods and Practicum for Teaching and Learning

Credits: 3

Principles of teaching applied to agriculture education instruction in the secondary and middle schools including: motivation, organization of subject matter, lesson/unit planning, assessment and reporting, organization and management of the classroom, and methodology and materials of the secondary and middle schools.

Repeat for Credit
N

Requisites
Prerequisite: Must be enrolled in Graduate Certificate for Teaching and Learning or Master of Arts in Teaching.

Typically Offered
Fall

AGED 797 - Agricultural Education Colloquium I

Credits: 2

This course explores key concepts within the field of Agricultural Education. Focus will be on advancing the development of disciplinary content knowledge and pedagogical content knowledge.

Repeat for Credit
N

Requisites
Prerequisite: Enrolled in the Master of Arts in Teaching program.

Typically Offered
Summer

AGED 798 - Agricultural Education Colloquium II

Credits: 2

This course explores additional key concepts within the field of Agricultural Education. Focus will be on advancing the development of disciplinary content knowledge and pedagogical content knowledge.

Repeat for Credit
N

Requisites
Prerequisite: AGED 797. Enrollment in the Master of Arts in Teaching.

Typically Offered
Fall

AGED 799 - Agricultural Education Colloquium III

Credits: 2

Class explores the content knowledge of the candidate in regards to the Agricultural Education content curriculum, identifies areas of strength and weakness in content knowledge, and provides enrichment and remediation to prepare the candidate for the internship experience.

Repeat for Credit
N

Requisites
Prerequisite: AGED 798. Enrollment in the Masters of Arts in Teaching.

Typically Offered
Intersession

AGED 800 - Research Methods in Agricultural Education and Communications

Credits: 3

This graduate-level course will focus on applying the principles, practices, and strategies for conducting research in the social sciences, particularly dealing with the interface of the human dimension in the agricultural and natural sciences.

Note
Great Plains Ag*IDEA Course Delivery.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

AGED 810 - Social Data Analysis in Communications and Agricultural Education

Credits: 3

A course in measurement and analysis as related to social science research and evaluation. The course takes an applied approach to organizing data, analyzing data according to research and evaluation objectives and/or hypotheses, using descriptive and inferential statistics, and interpreting data. Students gain practical experience in data entry and using SPSS for calculating statistics through laboratory exercises.

Repeat for Credit

N

Typically Offered
Fall

AGED 820 - History and Philosophy of Agricultural and Extension Education

Credits: 3

The primary purpose of this course is to provide the student with an examined grounding in the seminal events and people in the history of agricultural and extension education (history), principle divisions of thought (philosophies), and decisions made (policy), resulting in the current state of affairs in agricultural and extension education. The convergence of these factors has a notable impact on the current challenges and future direction of agriculture and extension education.

Note
Great Plains Ag*IDEA Course Delivery.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

AGED 823 - Agricultural Education for Beginning Teachers

Credits: 1-3

Securing and organizing information and planning teaching activities which will help the beginning vocational agriculture teacher.

Repeat for Credit
N

Requisites
Prerequisite: Graduation from the curriculum in agricultural education.

Typically Offered
Fall, Spring

AGED 824 - Young Farmer and Adult Farmer Education in Agriculture

Credits: 2-3

Organization, objectives, and procedures of conducting young farmer and adult farmer classes. Designed for teachers in service.

Note
Experience in teaching vocational agriculture.

Repeat for Credit
N

Typically Offered
On sufficient demand

AGED 830 - The History and Leadership of the Land Grant University

Credits: 3

The course will provide a historical overview of the evolution and development of land-grant colleges/universities. It will reflect on the fundamental beliefs of those who conceptualized and implemented the land-grant college and university system. The course will enable students to examine early public mandates and subsequent successes of these special institutions of higher education, as well as evaluate significant education, research, and public service developments and new initiatives needed for land-grants to effectively serve society in the future. It is expected that students will gain an understanding of and benefits derived from the institutions that comprise the land-grant college and university family, as well as envision developments and opportunities that will mold the future of these special institutions that represent the land-grant legacy.

Repeat for Credit
N

Typically Offered
Fall

AGED 831 - Survey Development in Agricultural Education and Communications

Credits: 3

Provide the expertise required to design and conduct survey research. Instruments (scales/questionnaire) used in data collection processes and acquire the statistical skills necessary to develop and test these survey instruments, SPSS and Qualtrics.

Repeat for Credit
N

Typically Offered
Summer

AGED 832 - Foundations and Theory of Agricultural Leadership

Credits: 3

Organizational concepts of leadership; administrative styles and structures; leadership for boards, committees, governmental bodies, and review of societal and political processes.

Repeat for Credit
N

Typically Offered
Fall

AGED 834 - International Agriculture and Extension Education

Credits: 3

This course focuses on a broad range of topic areas in the field of extension education as it impacts agriculture and rural community development. The primary purpose is to further students' understanding about extension systems' influence on agricultural development and the interface of agriculture with rural communities throughout the world. Emphasis will be placed upon research, theory, history and conceptual models of extension for establishing a strong philosophical foundation.

Repeat for Credit
N

Typically Offered
Spring, Summer

AGED 838 - Qualitative Design in Agricultural Education and Communications

Credits: 3

Overview of philosophies, approaches toward, design, data collection, analysis and reporting of qualitative research.

Repeat for Credit
N

Typically Offered
Fall, Spring

AGED 840 - Advanced Theory and Methods of Teaching Agriculture

Credits: 3

This course will use contemporary and foundational theory and research on teaching and learning processes in the application and organization of instructional methods and techniques in formal and non-formal educational settings particularly in agriculture, food and natural resources disciplines.

Repeat for Credit
N

Typically Offered
Fall, Spring

AGED 850 - Curriculum Development in Agriculture I

Credits: 2-3

Curriculum problems; planning local programs in agriculture; developing facilities and plans for meeting current and advanced problems in the teaching of agriculture.

Note
One year of teaching in agriculture.

Repeat for Credit
Y

Typically Offered
Spring

AGED 852 - Curriculum Development in Agriculture II

Credits: 2-3

Continuation of AGED 850.

Repeat for Credit
Y

Requisites
Prerequisite: AGED 850.

Typically Offered
Summer

AGED 855 - Field Studies in Agricultural Education

Credits: 2-3

Planning, organizing, and coordinating the various phases of the local program of vocational education in agriculture.

Note
Experience in teaching agriculture.

Repeat for Credit
Y

Typically Offered
On sufficient demand

AGED 858 - Program Planning and Evaluation in Agricultural and Extension Education

Credits: 3

This course is designed for students who are interested in the development and evaluation of agricultural and extension education programs. The course is designed to help students in the following areas: Acquire an understanding of program development from theory to practice; Strengthen their skills in planning, designing, implementing, evaluating, and accounting for educational programs of targeted audiences; and Provide application of program planning and evaluation concepts through experiential learning and class projects.

Repeat for Credit
N

Typically Offered
Spring

AGED 859 - Management of Volunteers in Agricultural and Extension Education

Credits: 3

This course is intended to prepare students to be effective managers of volunteer programs, or to challenge those students already engaged in those roles to improve on their existing skills. Theory will be emphasized in the course, only in so much as it is essential to be grounded in theory in order to apply it. Major topics of the course will include, but are not limited to: volunteer recruitment, training, evaluation and reward. This is an active course where students will be required to be active in and outside of class sessions.

Repeat for Credit
N

Typically Offered
Summer

AGED 860 - Program Evaluation in Agricultural and Extension Education

Credits: 3

Evaluation principles, models, and procedures used in developing and analyzing agricultural, vocational, technical, and extension education programs; role of comprehensive evaluation in needs assessments, program planning, program implementation, and the marketing of outcomes to major stake-holders; designs for evaluating agricultural and extension programs. Evaluation logic model is presented to identify and describe program inputs, activities, outputs, and outcomes.

Note
Great Plains Ag*IDEA Course Delivery.

Repeat for Credit
N

Typically Offered
Spring

AGED 880 - Portfolio Development in Agricultural Education and Communications

Credits: 0-1

The final semester of the MS in Ag Ed and Comm non-thesis/project option requires the completion of a portfolio. Completion, scoring and tracking will be completed through this course.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGED 890 - Master's Project

Credits: 1-3

Students select and prepare a project designed to improve their professional practice. It may be the construction of a professional portfolio or project to represent the student's learning throughout the master's degree program.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

AGED 899 - Master's Thesis

Credits: 1-6

A master's thesis presents the results of an original investigation or a problem or topic within the student's classroom or educational field approved by the candidate's supervisory committee.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGRON 101 - Agronomy Orientation

Credits: 1

Introduction to agronomy options, activities, resources, and careers. Required of all freshmen in agronomy at K-State.

Note
One hour lecture per week.

Repeat for Credit
N

Typically Offered
Fall

AGRON 115 - Special Topics in Agronomy

Credits: 1-6

Discussion and lectures on selected topic areas related to Agronomy.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGRON 120 - Crop Science

Credits: 3

Principles underlying practices used in the culture of grain and forage crops. Crop classification, structure, growth, and improvement. Crop response to environmental factors, soils, and pests and associated management practices. A basic course for majors in agronomy and others interested in crop production.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
4 Natural and Physical Sciences

K-State 8
Natural and Physical Sciences

AGRON 121 - Crop Science Laboratory

Credits: 1

Hands-on application of principles underlying practices used in the culture of grain and forage crops. Crop classification, crop botany, crop development, crop management, and problem solving for majors in agronomy and others interested in crop production.

Repeat for Credit
N

Requisites
AGRON 120 or concurrent enrollment

Typically Offered

Fall, Spring

K-State Core
4 Natural and Physical Sciences

AGRON 202 - Introduction to Precision Ag Software

Credits: 3

Introduction to software commonly used for the management and analysis of various forms of agronomic data pertaining to soils, crops, and weather for the purpose of generating site-specific recommendations in crop production.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

AGRON 205 - Soils

Credits: 3

Fundamental chemical, physical, and biological properties of soils; significance of these properties to soil classification and mapping, soil-plant relationships, soil management, and the environment.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 110 or 210.

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives
Natural and Physical Sciences

AGRON 206 - Soils Laboratory

Credits: 1

Hands-on lab and field experience in fundamental chemical, physical, and biological properties of soils; significance of these properties to soil classification and mapping, soil-plant relationships, soil management, and the environment.

Note
Two hour laboratory each week.

Repeat for Credit
N

Requisites
Prerequisite or corequisite: AGRON 205

Typically Offered
Fall, Spring

AGRON 251 - Range Management

Credits: 3

Fundamental ecological principles of production, conservation, and use of grasslands. Application of these fundamental principles to management.

Note
Three hours lecture each week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AGRON 260 - Field Identification of Range and Pasture Plants

Credits: 1

Identification of range and pasture plants through observing them in their natural environment.

Note
Two lab periods each week for first half of the semester.

Repeat for Credit

N

Typically Offered
Fall-Odd Years

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AGRON 302 - Agronomy International Study Tour

Credits: 0-6

An experiential learning course to prepare students for and to immerse them in an international study tour of selected agronomic industries. The topics vary by the tour and the industries studied.

Repeat for Credit
N

Typically Offered
Spring

Cross-listed
ENTOM 202

K-State 8
Global Issues and Perspectives

AGRON 325 - World Food Crops

Credits: 3

An introduction to the production and consumption patterns of major global food crops. Examine relationship between staple crops and food security. Guest speakers from around the world will discuss important crops grown in their home country. Hands-on activities with edible plant parts and food products.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Global Issues and Perspectives

AGRON 330 - Weed Science

Credits: 3

For those interested in crop production, crop protection, and agricultural education. Considers the origin of weeds, their relations to crops, and control systems emphasizing cultural, mechanical, biological, and chemical practices. Includes weed identification.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AGRON 120.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AGRON 335 - Environmental Quality

Credits: 3

An examination and survey of topics in environmental quality. Includes classification of soil, air, and water pollutants and their interaction with the environment, including the human food chain. Discussion of remediation techniques, risk assessment, and environmental legislation.

Note
Three lectures a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: CHM 110 or CHM 210.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Natural and Physical Sciences

AGRON 350 - Plant and Seed Identification

Credits: 2

Identification of crops and weeds by seed and vegetative characteristics. Analysis of seed samples for impurities.

Note
Four hours lab a week.

Repeat for Credit
N

Typically Offered
Spring

AGRON 360 - Crop Growth and Development

Credits: 3

Comparative growth and development of warm- and cool-season monocot and dicot crops. Environmental influences on growth and development processes and management techniques to minimize stresses.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 110 or CHM 210. Recommended Foundation Courses: AGRON 120 and AGRON 205.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AGRON 375 - Nutrient Cycling and Fertilizer Management

Credits: 3

Detailed information on nutrient cycling and management in soils and agroecosystems, including plant nutrition, nutrient interactions with soil, nutrient availability, and fertilizer management. Numerous soil biological, physical, and chemical properties on nutrient availability to crops will be emphasized.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: AGRON 205. Recommended Foundation Course: AGRON 120.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

AGRON 380 - Introduction to Grassland Monitoring and Assessment

Credits: 2

Vegetation sampling techniques used in rangeland research and for grassland monitoring and assessment. Use of statistics for sampling, analysis, and presentation of data.

Note
Meets during first half of the semester. Four hours lecture each week.

Repeat for Credit
N

Requisites
Recommended Prerequisite: AGRON 251 and STAT 240.

Typically Offered
Fall-Even Years

AGRON 381 - Introduction to Grassland Monitoring and Assessment Lab

Credits: 1

A field laboratory course designed as a companion to AGRON 380. Focus on methods used for determination of biomass, basal cover, frequency, and density. Additional time will be spent on basic statistics, experimental design, and analyzing data sets.

Note
Meets during the first half of the semester. One hour of lecture and one lab each week.

Repeat for Credit
N

Requisites
Prerequisite: AGRON 380 or concurrent enrollment.

Typically Offered
Fall-Even Years

AGRON 385 - Soil Analysis and Nutrient Recommendations

Credits: 2

Detailed information on (1) techniques for soil sample collection, (2) chemical methods for routine soil analysis, (3) development of fertilizer recommendations, and (4) fertilizer characteristics. Laboratory exercises reinforce the theoretical principles presented in lectures.

Note
One hour lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AGRON 375 or concurrent enrollment.

Typically Offered
Spring

AGRON 400 - Undergraduate Topics in Agronomy

Credits: 1-3

Special topics in agronomy not completely treated in other courses.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring

AGRON 405 - Internship in Agronomy

Credits: 0-3

Supervised professional experience in any agronomic area. One credit is equivalent to 120 hours of supervised and evaluated work experience. Cooperating employers and interns will complete a learning contract and set learning outcomes. Student presentation required upon completion of internship.

Repeat for Credit
Y

Requisites
Prerequisite: AGRON 120 and AGRON 205.

Typically Offered
Fall, Summer

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

AGRON 415 - Soils Judging

Credits: 0-1

Techniques employed in writing descriptions of soil morphology and in classifying soils for intercollegiate soils judging.

Note
Six hours lab a week for the first half of the semester.

Repeat for Credit
Y

Requisites
Recommended Foundation Course: AGRON 205.

Typically Offered
Fall, Spring

AGRON 425 - Forage Quiz Bowl Team

Credits: 0-1

Prepare quiz bowl team members with review of forage history, soils and fertility, establishment, grazing management, plant physiology, poisons and toxicity, forage quality, hay and silage, and identification of forages and weeds.

Repeat for Credit

Y

Typically Offered
Fall

AGRON 446 - Introduction to Environmental Soil Physics

Credits: 3

A conceptual and quantitative introductory study of vadose zone soil physical properties and processes in relation to the main components of the hydrologic cycle and the soil surface energy balance.

Note
Three hours of lecture a week

Repeat for Credit
N

Requisites
Recommended Prerequisites: AGRON 205 and PHYS 113

Typically Offered
Spring

AGRON 450 - Crops Team

Credits: 0-2

Grain grading, seed and plant identification, and seed analysis. Studies lead to participation in intercollegiate crops contest.

Note
Four hours lab a week.

Repeat for Credit
Y

Requisites
Recommended Foundation Course: AGRON 350.

Typically Offered
Fall

AGRON 462 - Range Grasses

Credits: 2

Field and laboratory study of range and pasture plants, with special emphasis on grasses and their distinguishing characteristics.

Note
One hour lecture and two hours lab a week.

Repeat for Credit
N

Typically Offered
Fall-Even Years

AGRON 490 - Introduction to Range Management Planning

Credits: 3

Inventory and analysis of rangeland resources and development of detailed management plan. Emphasizes range management principles and practices useful in maximizing production from rangelands.

Note
Two hours lecture and one lab each week, may include field trips to ranch operations.

Repeat for Credit
N

Requisites
Recommended Prerequisite: AGRON 251

Typically Offered
Spring-Odd Years

AGRON 502 - International Experience in Agronomy

Credits: 0-6

Students will apply knowledge gained in their undergraduate curriculum in a culminating learning experience focused on international crops, soils, and agronomic systems. Topics vary by offering depending on the agronomic systems studied and locations visited.

Repeat for Credit
N

Requisites
Prerequisite: AGRON 120 and AGRON 205 and 8 hours of any AGRON course

Typically Offered
Spring

K-State 8
Global Issues and Perspectives

AGRON 550 - Forage Management and Utilization

Credits: 3

Production and utilization of forage crops. Development of forage programs for livestock production, including pasture and stored forages.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: AGRON 120 and junior standing.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AGRON 551 - Forage Management and Utilization Laboratory

Credits: 1

Identification of forage species, techniques for estimating forage quality, forage physiology, and field trips.

Note
One two-hour lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Completion of or concurrent enrollment in AGRON 550.

Typically Offered
Spring

AGRON 598 - Undergraduate Research in Agronomy

Credits: 0-18

Independent research experience guided by faculty in crop science, weed science, range science, or soil science.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

AGRON 600 - Problems in Agronomy

Credits: 1-18

Independent study may be chosen in any area of agronomy: genetics, crop improvement, forages, ecology, weed control, plant physiology, crop production, soils, fertility, genesis, or conservation. Study conducted under the guidance of a faculty member, with topic jointly selected by student and instructor. Course format and number of credit hours determined by the instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGRON 602 - Agronomy Capstone Experience

Credits: 3

A culminating learning experience to apply the knowledge gained by the student in the undergraduate curriculum, to apply the skills of problem-solving and critical thinking, and to develop the ability to work in teams and participate in civil discourses. Current issues in Agronomy will be discussed and a team project will be completed.

Note
Three hours of seminar a week.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

AGRON 605 - Soil and Environmental Chemistry

Credits: 3

A study of inorganic and organic chemistry of soils with a detailed examination of the solid, liquid, and gaseous phases. Includes discussions of mineral solubility, electrochemical and adsorption phenomena, acidity, salinity, and fertility. Emphasis is placed on the biogeochemical cycling of plant nutrients and important soil contaminants.

Note
Three hours of recitation a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: AGRON 375 or AGRON 205 and CHM 230.

Typically Offered
Spring

Natural and Physical Sciences

AGRON 610 - Biotechnology

Credits: 3

The use of biotechnology and molecular genetic approaches in plant and animal sciences. Emphasis is on the use of molecular techniques for plant and animal improvement.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 500 or BIOL 398.

Typically Offered
Fall

Cross-listed
PLPTH 610

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

AGRON 615 - Topics in Agronomy

Credits: 1-3

Discussion and lectures on important topics in the field of Agronomy.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGRON 620 - Applied Crop Physiology

Credits: 3

Study of cultivated crop botany, whole plant and canopy physiology, impact of abiotic (water, temperature, and plant nutrition) and biotic stresses (weeds, insects, and diseases), crop seed physiology, and global climate change effects on crops.

Repeat for Credit
N

Requisites
Prerequisite: AGRON 120 or HORT 201.

Typically Offered
Fall

AGRON 630 - Crop Improvement and Biotechnology

Credits: 3

Techniques in basic plant breeding and biotechnology used to genetically improve crops and procedures to increase, distribute, and maintain breeding stocks and varieties.

Note
Two hours lecture and one two-hour lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: AGRON 120 and ASI 500.

Typically Offered
Spring

Natural and Physical Sciences

AGRON 635 - Soil and Water Conservation

Credits: 3

Principles, prediction, and effects of soil erosion from water and wind. Conservation practices for erosion control and promoting soil, water, and air quality. History of soil and water conservation and the Dust Bowl. Past and present government agencies and policies for soil and water conservation.

Note
Two hours recitation and 1 three-hour lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: AGRON 205.

Typically Offered
Fall

Historical Perspectives

AGRON 640 - Cropping Systems

Credits: 3

Principles for developing and managing cropping systems in the Great Plains for the efficient use of natural resources, primarily water. Emphasis on dryland cropping systems, management of crop rotations, and the plant/soil/environment interaction. Includes the efficient use of natural resources via an understanding of yield limiting factors, impact of crop rotations and cultural practices, climate, plant growth, and development.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: AGRON 375.

Typically Offered
Fall

Natural and Physical Sciences

AGRON 645 - Soil Microbiology

Credits: 3

The nature and function of soil microorganisms in the soil ecosystem. The role of soil microbial activity to soil organic matter, mineral transformations, plant nutrition, and environmental quality.

Note
Three hours lecture each week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: AGRON 205 or BIOL 255.

Typically Offered
Fall

Natural and Physical Sciences

AGRON 646 - Soil Microbiology Laboratory

Credits: 1

Discuss and perform laboratory procedures for enumerating soil microorganisms, quantifying soil biological activities, and nutrient cycling.

Note
Three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AGRON 645 or concurrent enrollment.

Typically Offered
Fall

Natural and Physical Sciences

AGRON 650 - Integrated Weed Management

Credits: 3

The development of weed management systems based on diagnosis of weed and crop problems, understanding crop-weed associations and interactions with the environment, and integrating weed control tactics such as chemical, biological, cultural, and mechanical practices into recommendations.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: AGRON 330.

Typically Offered
Spring

Natural and Physical Sciences

AGRON 655 - Site Specific Agriculture

Credits: 3

Introduction to spatial analysis and management of agricultural and environmental resources using Geographic Information Systems (GIS) technology. Emphasis on collecting, displaying, and analyzing spatial or georeferenced soil, crop, or other land surface data.

Note
Two hours lecture, and two hours lab.

Repeat for Credit
N

Requisites
Required Pre-requisite: AGRON 202 Recommended Foundation Course: AGRON 375 and GEOG 508 and GEOG 605.

Typically Offered
Spring

Natural and Physical Sciences

AGRON 660 - Grassland Monitoring and Assessment

Credits: 2

Vegetation sampling techniques used in rangeland research and for grassland monitoring and assessment. Use of statistics for sampling, analysis, and presentation of data.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: AGRON 251 and STAT 240.

Typically Offered
Fall-Even Years

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AGRON 661 - Grassland Monitoring and Assessment Lab

Credits: 1

A field laboratory course designed as a companion to AGRON 660. Labs will consist of methods used for determination of biomass, basal cover, frequency, and density. Additional time will be spent on basic statistics, experimental design, and use of the microcomputer in analyzing data sets.

Note
Meets during the first half of the semester.

One hour lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Corequisite: AGRON 660

Typically Offered

Fall-Even Years

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AGRON 662 - Rangeland Watershed Management

Credits: 3

Study of the management of physical/biological settings and processes along with human activities on water and watersheds considering preventative and restorative strategies in a natural resource rangeland setting. Web-based distance AG*IDEA course.

Repeat for Credit
N

Typically Offered
Spring

AGRON 665 - Soil Genesis and Classification

Credits: 3

Factors and processes of soil formation, classification of soils according to soil taxonomy, and use of soil survey information. Practical field experience describing soil properties. Required field trips.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: GEOL 100 or AGRON 205.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AGRON 670 - Range Management Problems

Credits: 1-18

Range Management Problems

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGRON 680 - Plant Genetics

Credits: 3

Concepts and application of basic genetic principles in higher plants.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 500 or BIOL 398. Recommended Foundation Course: AGRON 610 and AGRON 630.

Typically Offered
Spring

AGRON 681 - Range Ecology

Credits: 3

Application of ecological principles to range ecosystem management. Study of plant-soil-animal interactions with rangelands, and discussion of plant succession, environmental influences, and ecological concepts.

Note
Two hours recitation a week and one lab credit consisting of field trips to representative range areas.

Repeat for Credit
N

Requisites
Recommended prerequisite: AGRON 251 and BIOL 529.

Typically Offered
Spring-Even Years

Natural and Physical Sciences

AGRON 682 - Grassland Fire Ecology

Credits: 3

The course is designed to describe the ecological effects of fire on grassland ecosystems. It also provides insight into the history of fires, the people who use them and why, the parts of a a fire, how fires behave in relation to fuel and weather, and the conducting and safety of prescribed burns.

Repeat for Credit
N

Typically Offered
Fall-Odd Years

AGRON 695 - Climate Change and Agriculture

Credits: 3

Impact of climate and climate change on agricultural systems and soil and water resources at global and regional scales. Discussion on adaptation and mitigation strategies including economics and policies that affect agriculture.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: Junior or senior standing.

Typically Offered
Spring-Odd Years

K-State 8
Global Issues and Perspectives
Natural and Physical Sciences

AGRON 700 - Agricultural Meteorology

Credits: 3

Fundamental concepts of meteorology and climatology and their applications to agriculture. Use of weather data to study meteorological variables and to estimate relevant parameters and processes, such as crop growth, development, yield, evapotranspiration, and soil water budget.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Recommended Prerequisite: PHYS 113.

Typically Offered
Fall-Even Years

AGRON 720 - Nutritional Improvement of Food Crops

Credits: 3

Discussion of current genetic and breeding efforts to improve the nutritional value of food crops, focusing on vitamins, minerals, amino acids, fatty acids, and phytonutrients. Impact of nutritionally-improved crops in food security.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing.

Typically Offered
Spring-Odd Years

AGRON 732 - Introduction to Plant Resistance to Pests

Credits: 2

Basic concepts of the biology, ecology, genetics and breeding for pest resistance in plants.

Note
Four hours lecture and discussion a week. To meet the first half of semester.

Repeat for Credit
N

Requisites
Prerequisite: ENTOM 300 or PLPTH 500 or ENTOM 312, and one course in plant or animal genetics.

Typically Offered
Fall-Even Years

Cross-listed
PLPTH 732 and ENTOM 732

AGRON 746 - Environmental Soil Physics

Credits: 3

A conceptual and quantitative introductory study of vadose zone soil physical properties and processes in relation to the main components of the hydrologic cycle and the soil surface energy balance.

Note
Three hours of recitation a week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: AGRON 205 and PHYS 113.

Typically Offered
Spring

AGRON 775 - Advanced Nutrient Cycling and Fertilizer Management

Credits: 3

Detailed information on nutrient cycling and management in soils and agroecosystems, including plant nutrition, nutrient interactions with soil, nutrient availability, and fertilizer management. Numerous soil biological, physical, and chemical properties on nutrient availability to crops will be emphasized. Students will independently assess nutrient availability in soils and develop nutrient management plans for production systems.

Repeat for Credit
N

Requisites
Prerequisite: Graduate Standing and a soils course.

Typically Offered
Spring

AGRON 781 - Ecology of Invasive Species

Credits: 3

Ecological principles and their application to invasive species. Discussion of population, community and ecosystem level characteristics affecting a wide variety of invasive plant and animal species. Discussions will include current global consequences and governmental policies/programs designed to limit the spread of invasives.

Repeat for Credit
N

Typically Offered
Fall-Odd Years

AGRON 790 - Range Management Planning

Credits: 3

Inventory and analysis of rangeland resources and development of detailed management plan. Emphasizes range management principles and practices useful in maximizing production from rangelands.

Note
Two hours recitation a week and one lab credit including field trips to ranch operations.

Repeat for Credit
N

Requisites
Recommended Foundation Course: AGRON 251.

Typically Offered
Spring-Odd Years

AGRON 800 - Advanced Problems in Agronomy

Credits: 1-3

Independent study of a specific problem in agronomy under the guidance
of a member of the department's graduate faculty. For non-thesis or
non-dissertation studies. Topic is selected jointly by student and
instructor. Course format and number of credit hours are determined by
the instructor.

Note
Consent of instructor

Repeat for Credit

Y

Typically Offered
Fall, Spring, Summer

AGRON 810 - Agronomy Seminar

Credits: 1

A discussion of agronomic developments.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall, Spring

AGRON 816 - Soil Physics

Credits: 3

A study of the transport of water, heat, gases, and solutes in soil. Examples are presented that related to both agricultural and engineering land uses. Emphasis is given to understanding how soil physical properties and soil management practices influence transport processes.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: AGRON 746 and MATH 220.

Typically Offered
Spring

AGRON 820 - Plant Water Relations

Credits: 3

Properties of water, terminology in plant and soil water relations, environmental aspects of plant-water relations, soils as a water reservoir, water as a plant component, water movement through the plant, special aspects of transpiration, development and significance of internal water deficits, drought resistance mechanisms, water consumption by crop plants.

Repeat for Credit
N

Requisites
Recommended Prerequisite: BIOL 500.

Typically Offered
Spring

AGRON 821 - Principles of Forage Quality

Credits: 3

The course provides an indepth study of the chemical characteristics of forage components and the interactions with ruminant physiology and digestion that influence forage feeding value and the laboratory procedures used to evaluate forages for grazing livestock. Students should have knowledge of the basic principles of chemistry, ruminant nutrition, and plant physiology so that they can develop an understanding of the chemical characteristics of forages and how they affect the value of forages to grazing livestock.

Note
Web-based distance AG*IDEA course.

Repeat for Credit
N

Requisites
Recommended Prerequisite: AGRON 251 or AGRON 550, and ASI 320, and STAT 225, or equivalents.

Typically Offered
Summer-Even Years

AGRON 822 - Herbicide Interactions

Credits: 3

Herbicide fate in plants and soils. Physiological and biochemical processes in plants and soils as affected by herbicides. Molecular biochemistry of herbicide resistance that have developed in the field. Biotechnologically derived herbicide-resistant crops.

Note
Three hours lecture per week.

Repeat for Credit

N

Requisites
Recommended Foundation Course: AGRON 650 or BIOL 500.

Typically Offered
Spring-Odd Years

AGRON 824 - Advanced Weed Ecology

Credits: 3

A study of advanced weed ecology topics including weed/crop interference, weed growth and development, herbicide resistance, biological control, spatial and temporal population dynamics, and ecological approaches to weed management.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Recommended Prerequisite: AGRON 650.

Typically Offered
Fall-Odd Years

AGRON 825 - Soil and Plant Analysis

Credits: 3

Theories and procedures for the chemical analysis of soils and plant materials. Applications of analysis in soil fertility evaluations and in research work are discussed.

Note
One hour recitation and six hours lab a week.

Repeat for Credit
N

Requisites
Recommended Prerequisite: CHM 271.

Typically Offered
Fall-Odd Years

AGRON 832 - Grassland Plant Identification

Credits: 2

Study of plants that have ecological and/or agricultural importance in the Great Plains. Emphasis on plant identification, grassland ecosystems, and plant forage value, palatability, and utilization by both domestic livestock and wildlife. Cultural and historical uses of grassland.

Note
Web-based distance AG*IDEA course.

Repeat for Credit
N

Requisites
Recommended Prerequisite: AGRON 251 and BIOL 198 or equivalents.

Typically Offered
Spring

AGRON 835 - Nutrient Sources, Uptake and Cycling

Credits: 3

An examination of the behavior of plant nutrients in soils emphasizing nutrient sources, the interaction of nutrient with soils, and the role of plant root as nutrient sinks. Includes processes used in the formulation of chemical fertilizers and the assessment of available nutrients in non-commercial plant nutrient sources.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: AGRON 375.

Typically Offered
Fall-Odd Years

AGRON 840 - Crop Physiology

Credits: 3

Principles of nitrogen metabolism, mineral nutrition, photosynthesis, growth substances, and hardiness applied to crop production.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: BIOL 500.

Typically Offered
Spring-Odd Years

AGRON 843 - Advanced Forage Management

Credits: 3

Examines the integrated management of forages, livestock, soil, water, pests, and the environment.

Repeat for Credit
N

Typically Offered
Spring-Even Years

AGRON 845 - Reproducible Research and Scientific Computing

Credits: 3

Develop skills to handle large datasets, generate reproducible science, and develop creative data analysis and interpretation skills. Focus will be on understanding programming logic by developing and writing computing codes for common tasks and concepts related to environmental science.

Note
Three hours lecture per week.

Repeat for Credit
N

Typically Offered
Spring

AGRON 850 - Agricultural Climatology

Credits: 3

Climate and climate change interact with agricultural production systems and climate data can be used to improve our understanding of these changes. Climate fundamentals, climate information, and climate data analysis will be reviewed to understand and solve a variety of social, environmental, and agricultural problems.

Repeat for Credit
N

Typically Offered
Fall-Odd Years

AGRON 860 - Applied Plant Breeding

Credits: 3

This course considers in detail the mechanics of an applied plant breeding program for agronomic crops.

Repeat for Credit
N

Requisites
Prerequisite: AGRON 630 or HORT 740, AGRON 680, and STAT 703.

Typically Offered
Spring

AGRON 880 - Plant Molecular Biology

Credits: 3

A study of plant genes and genome organization, plant gene expression and regulation, and functional analysis of plant genes.

Note
Three hrs. lec. a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 521, PLPTH 610, or BIOL 541.

Typically Offered
Fall-Even Years

Cross-listed
PLPTH 880

AGRON 881 - Grazing Ecology and Management

Credits: 3

This course discusses the ecological principles of domesticated livestock grazing and their application to manage grazing lands. Theoretical and applied models of plant/animal interactions will be presented. Grazing systems and their management of ecosystem services will be presented as balance between production and conservation outcomes.

Repeat for Credit
N

Typically Offered
Fall-Even Years

AGRON 893 - Agricultural Simulation Modeling

Credits: 4

Techniques for developing and testing computer simulation models for research, management, and design applications in agriculture.

Note
Three lectures and one three-hour work session per week.

Repeat for Credit
N

Requisites
Prerequisite: STAT 705. Recommended Foundation Course: MATH 211.

Typically Offered
Fall-Even Years

AGRON 898 - Master's Report

Credits: 2

Preparation of a written report either of research or of problem work on a topic in the major field.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGRON 899 - Master's Research

Credits: 1-18

Research on a problem which may extend throughout the year and furnish data for a master's thesis.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGRON 900 - Micrometeorology

Credits: 3

A comprehensive analysis of interactions between living organisms and their physical environment. Emphasis is placed on characterizing the transport of heat, water, and carbon within the soil-plant-atmosphere continuum. Includes discussions on aerodynamic transfer, surface energy balances, evapotranspiration, trace gas fluxes, and basic micrometeorology. The potential impact of climatic change on biosphere productivity will be considered.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 115 and AGRON 746 or BIOL 500.

Typically Offered
Spring-Odd Years

AGRON 902 - International Agronomy Experience for Graduate Students

Credits: 0-6

Students will apply knowledge gained in their graduate curriculum focused on international crops, soils, and agronomic systems. Topics vary by offering depending on the agronomic systems studied and locations visited.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: AGRON 360 and AGRON 375.

Typically Offered
Fall, Spring

AGRON 905 - Advanced Soil Chemistry

Credits: 3

Application of physical chemistry to soils; cation and anion equilibria, ion activities, sorption, redox reactions, and other physiochemical phenomena in soils.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: AGRON 605 and CHM 500.

Typically Offered
Fall-Even Years

AGRON 915 - Advanced Plant Genetics

Credits: 3

In-depth treatment of advanced concepts in molecular, quantitative, and cytogenetics of plants.

Note
Three hrs. lec. a week.

Repeat for Credit
N

Requisites
Prerequisite: PLPTH 680/AGRON 680.

Typically Offered
Fall-Odd Years

Cross-listed
PLPTH 915

AGRON 916 - Advanced Soil Physics

Credits: 3

An advanced study of the transport of water, heat and solutes in soil. The theory of unsaturated water flow, coupled heat and water flow, and the convection and dispersion of reactive solutes will be studied in detail. Spatial variability of soil physical properties will be discussed, solute transport will be presented.

Note
Three hours lecture per week.

Repeat for Credit
Y

Requisites
Prerequisite: AGRON 816, MATH 240 and PHYS 113.

Typically Offered
Fall-Odd Years

AGRON 920 - Advanced Topics in Agronomy

Credits: 1-3

Discussion and lectures on important papers and contributions in the field of Agronomy.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of Instructor

Typically Offered
Fall, Spring, Summer

AGRON 925 - Advanced Soil Genesis and Classification

Credits: 3

An advanced study of processes of soil formation and systems of soil classification including soil taxonomy.

Note
Two hours recitation a week.

Repeat for Credit
Y

Requisites
Recommended Foundation Course: AGRON 515.

Typically Offered
Spring-Odd Years

AGRON 945 - Soil Mineralogy

Credits: 4

Theory and application of methods for analyzing minerals in soil environments, including X-ray, electron optical, thin section, and wet chemical techniques.

Note
Two hours recitation and six hours lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: AGRON 605.

Typically Offered
Fall-Odd Years

AGRON 950 - Advanced Crop Ecology

Credits: 3

Principles of growth and development of crops in relation to the environment.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: BIOL 500, BIOL 529, STAT 704, and STAT 705.

Typically Offered
Spring-Even Years

AGRON 955 - Soil Microbial Ecology

Credits: 3

Theories and concepts of the ecology and function of microorganisms in the soil environment. Discussions will include factors regulating microbial activity, the flow of energy (carbon), and nitrogen transformations as they relate to plant productivity and environmental quality.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Recommended Foundation Courses: AGRON 645 and BIOCH 521.

Typically Offered
Spring-Even Years

AGRON 970 - Advanced Plant Breeding I

Credits: 3

Application of quantitative genetics in plant breeding, heritability, mating designs, selection techniques and theory, marker assisted selection, population improvement, breeding autopolyploid crops.

Repeat for Credit
N

Requisites
Recommended Prerequisite: AGRON 860.

Typically Offered
Fall-Odd Years

AGRON 980 - Genomic Analysis for Crop Improvement

Credits: 3

Concepts and applications of genomic analysis in crop improvement, including crop evolution, and origin, germplasm conservation and utilization, population structure and genetic distances, genomic-wide association and linkage studies.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: AGRON 860 or ASI 500, PLPTH 612.

Typically Offered
Spring-Even Years

AGRON 999 - PhD Research

Credits: 1-18

Research on a problem which may extend throughout the year and furnish data for a doctoral dissertation.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGTEC 111 - Ag Pathway: Agricultural Technology and Mechanical Systems

Credits: 3

For completers of the Kansas Career Cluster Pathway in Agriculture, Food, and Natural Resources Career Cluster, Agricultural Technology and Mechanical Systems

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

AGTEC 199 - Independent Study in Agricultural Technical Education

Credits: 0-6

Student-specific projects or independent guided studies in agricultural technical education or applied studies.

Note
Department Consent Required

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AGTEC 200 - Topics in Agricultural Technical Education

Credits: 0.5-6

Topics of special interest. Will be offered upon sufficient demand in selected areas of agriculture that are technical or applied in nature.

Repeat for Credit
Y

Typically Offered
On sufficient demand

AIT 301 - Advanced Technical Mathematics

Credits: 3

This course provides an in-depth study of essential mathematical concepts required to address multiple scenarios within engineering technology, with a focus on Plane Trigonometry, introductory Calculus, and Physics principles.

Repeat for Credit
N

Requisites
Prerequisite: Prerequisite: College Algebra (100) or equivalent or higher

Typically Offered
Fall, Spring, Summer

AIT 325 - Applied Mechanics I

Credits: 4

Static force equilibrium, free-body force analysis, friction, structural force analysis, centroids and center of gravity, area moment of inertia, concepts of stress and strain. Strength of materials. Axial, torsional, bending and combined stress and strain analysis. Considerations of stress concentration, fatigue, and impact conditions. Applied fluid mechanics, mass conservation and energy conservation equations.

Note
This course will cover statics, strength of materials and applied fluid mechanics. 3 hours of lecture, 2 hours of lab.

Repeat for Credit
N

Typically Offered
Fall or Spring

AIT 330 - Electric Circuits and Power Technology

Credits: 4

DC and AC circuits, series and parallel connections. Electrical properties of Conductors. Ohm's law. Resistive

loads and non-linear loads. Power sources. AC power generation and distribution, single phase and 3-phase, active, reactive and apparent powers, motors.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

AIT 331 - Semiconductor Electronics and Digital Logic

Credits: 4

Studies of basic semiconductor theory. Principles, characteristics and applications of semiconductor devices such as various types of diodes, transistors, and thyristors. Small scale integrated circuits. Logic gates. Number system and Boolean algebra.

Repeat for Credit
N

Requisites
Prerequisite: AIT 330 Electric Circuits and Power Technology or instructor permission.

Typically Offered
Fall or Spring

AIT 370 - Technology Project Management

Credits: 3

This course covers the following subjects: 1) principles of engineering decision making process, financial aspects of technology projects, including principal and compound interest calculations, 2) uniform annual cost, rate of return, depreciation, equipment replacement, and competing projects, 3) technology project planning, including aggregate planning and master production schedule, inventory control, material and capacity planning, and shop floor control as well as 4) technical document preparation and reporting.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

AMETH 160 - Introduction to American Ethnic Studies

Credits: 3

This course introduces students to the major concepts related to ethnicity and to some of the major American ethnic groups.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
5 Social and Behavioral Sciences

K-State 8
Historical Perspectives
Human Diversity within the U.S.

AMETH 185 - Race, Film, and American Stories

Credits: 3

Introduces students to how race functions in movies, books, and more. It will further examine how movies and books activate and reflect change. Students will analyze artistic expression from one or more American Ethnic traditions, including film and literature, and possibly also music, comics, TV, and other texts.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

Cross-listed
ENGL 185 and AMETH 185

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

AMETH 300 - Intercultural Competence in Institutions

Credits: 3

Prepares students to understand and appreciate America's race relations and its diverse histories. Emphasis on implementing cultural competency in various social settings.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Human Diversity within the U.S.
Historical Perspectives

AMETH 351 - African American Perspectives

Credits: 3

A critical examination of African American experience in the context of U.S. society and institutions. The analysis will consider the interrelationships between and among various African American groups and "mainstream" America, and their corresponding nationalities and regions of origin.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Historical Perspectives
Human Diversity within the U.S.

AMETH 352 - American Indian Perspectives

Credits: 3

A critical examination of American Indian experience in the context of U.S. society and institutions. The analysis will consider the interrelationships between and among various American Indians and "mainstream" America, American Indian nations and/or tribes.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Historical Perspectives
Human Diversity within the U.S.

AMETH 353 - Latina/o Perspectives

Credits: 3

A critical examination of U.S. Latina/o experience in the context of American society and institutions. The analysis will consider the interrelationships between and among various Latina/o groups, "mainstream" America, and their corresponding nationalities and regions of origins.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Historical Perspectives
Human Diversity within the U.S.

AMETH 354 - Asian American Perspectives

Credits: 3

A critical examination of Asian American experience in the context of U.S. society and institutions. The analysis will consider the interrelationships between and among various Asian American groups, "mainstream" America, and their corresponding nationalities and regions of origin.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Historical Perspectives
Human Diversity within the U.S.

AMETH 370 - Politics of Women of Color

Credits: 3

Explores the coalitional politics of women of color from its earliest formation as the "Third World Women's Alliance" in the 1960s to its manifestation in present-day movements like "Incite! Women of Color Against Violence."

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

AMETH 450 - Comparative Ethnic Studies

Credits: 3

Provides a comparative framework for understanding both the specificities within and the differences between the situations of racially marginalized groups in the U.S. and beyond.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

AMETH 460 - Independent Reading and Research in American Ethnic Studies

Credits: 1-3

Guided reading and research on a specific topic of student interest, leading to preparation of a research paper or creative work.

Note
Topic and credit to be arranged. Permission of instructor.

Repeat for Credit
Y

Requisites
Prerequisite: AMETH 160, at least one other American ethnic studies course

Typically Offered
Fall, Spring, Summer

K-State 8
Human Diversity within the U.S.

AMETH 461 - Transformative Thought

Credits: 3

Engages a range of advanced theories and critical concepts in American Ethnic Studies, including the intersections of race, ethnicity, gender, class, indigeneity, (dis)ability, citizenship, and sexuality.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

AMETH 499 - Senior Research Project in American Ethnic Studies

Credits: 3

Guided research in American ethnic studies. Students prepare a research paper on a relevant subject of their choice. Each student is responsible for arranging to work with a member of the American ethnic studies faculty.

Repeat for Credit
N

Requisites
Prerequisite: AMETH 160.

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

AMETH 501 - Recitation Leadership

Credits: 1-3

Integrative review of concepts in American ethnic studies under faculty supervision. Preparation for leading discussions, workshops and reviews in American ethnic studies. Students attend two lecture sessions per week

concurrent with AMETH 160, one additional seminar session focused on planning and preparation for recitations, and are responsible for leading discussions in one or more recitation sections in AMETH 160 per week.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

AMETH 556 - Multicultural Psychology

Credits: 3

To introduce and familiarize students with the concept of multicultural.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

AMETH 560 - Topics in American Ethnic Studies

Credits: 3

Selected topics of special interest in American Ethnic Studies.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.

AMETH 660 - Independent Reading and Research in American Ethnic Studies

Credits: 1-3

Advanced guided reading and research on a specific topic of student interest, leading to preparation of a research paper or creative work.

Note
Topic and credit to be arranged. Permission of instructor.

Repeat for Credit
Y

Requisites
Prerequisite: Senior or graduate standing

Typically Offered
Fall, Spring, Summer

K-State 8
Human Diversity within the U.S.

AMETH 700 - Advanced Topics in American Ethnic Studies

Credits: 3

Provides students the opportunity to investigate topics in American Ethnic Studies that enable greater depth and complexity of understanding of field's methodological approaches and specializations.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

AMP 101 - Introduction to Aviation Regulations and Aircraft Drawings

Credits: 3

A review of the role and organizational structure of the Federal Aviation Administration (FAA) as it relates to the certification and continued airworthiness of aircraft and its operation in general, business, and commercial aviation environments. Emphasis on the privileges and limitations of certificated personnel who maintain aircraft systems in the context of the FAA regulations. Includes concepts of

weight and balance, logbook entries, and accurate use of graphs and charts. Students demonstrate the ability to read and comprehend information contained in FAA and manufacturers' aircraft maintenance specifications, data sheets, manuals, publications, and related Federal Aviation Regulations, Airworthiness Directives, and Advisory material. Students learn how to read, understand, and interpret aircraft drawings commonly found in the aviation maintenance industry.

Repeat for Credit
N

Typically Offered
Fall or Spring

AMP 102 - Aviation Math and Physics

Credits: 3

This is a study of basic math and physics as required by aircraft technicians and defined by FAR 147. Use and understand the principles of simple machines, sound, fluid, and heat dynamics, basic aerodynamics, aircraft structures, and theory of flight. Apply, calculate, and solve basic math functions, ratios and proportions, and algebraic equations that are relevant to aviation. Students will also learn the concepts involved in weighing and balancing an aircraft.

Repeat for Credit
N

Typically Offered
Fall or Spring

AMP 103 - Concepts of Aircraft Materials and Tooling Standards

Credits: 3

The concepts essential to understanding aircraft material properties and fabrication techniques are taught. Emphasizes knowledge: shop safety, organization and human factors associated with shop practices, basic aircraft structural materials and hardware familiarization, fluid lines and fittings, hand tool selection and use, and aviation-specific dimensional inspection tools and techniques, aircraft hardware identification and applications, cleaning and corrosion control, aircraft metal selection and applications, and aircraft material inspection fundamentals.

Repeat for Credit
N

Typically Offered
Fall or Spring

AMP 104 - Basic Aircraft Electricity and Ground Operations

Credits: 3

A basic concept of DC/AC circuits, with basic laws relating to the following: measuring voltage, current, resistance, continuity and leakage; relationship of voltage, current and resistance in electrical circuits; reading and interpretation of electrical circuit diagrams; electrical devices and inspection and servicing of batteries. Introduction to digital numbering systems and digital logic functions. Also included are the introduction to air transport maintenance procedures, aircraft ground operations, and knowledge of aircraft batteries.

Repeat for Credit
N

Typically Offered
Fall or Spring

AMP 105 - Application of General Aviation Maintenance Concepts

Credits: 2

This laboratory course provides hands-on experience with fundamental aviation maintenance tasks aligned with concepts from AMP 101–104. Students will gain practical skills in weighing aircraft, taking critical measurements, performing non-destructive testing, moving and securing aircraft, and executing basic ground operations. Additional training includes aircraft servicing, fueling, ground running, shop safety procedures and processes, flight line safety, and other general aviation-related tasks.

Repeat for Credit
N

Typically Offered
Fall or Spring

ANTH 200 - Introduction to Cultural Anthropology

Credits: 3

Introduction to ethnology and ethnography; analysis and comparison of technological, social, and religious characteristics of cultural systems.

Note
Not available for credit to students who have credit in ANTH 204.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Global Issues and Perspectives
Social Sciences

ANTH 204 - A General Education Introduction to Cultural Anthropology

Credits: 3

Introduction to ethnology and ethnography; analysis and comparison of technological, social, and religious characteristics of cultural systems.

Note
Not available for credit to students who have credit in ANTH 200.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Global Issues and Perspectives
Social Sciences

ANTH 210 - Introduction to Cultural Anthropology, Honors

Credits: 3

Introduction to basic ethnology and ethnography; technological, social, and religious characteristics of cultural systems; discussion and independent study.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Global Issues and Perspectives
Social Sciences

ANTH 220 - Introduction to Linguistic Anthropology

Credits: 3

Language as a part of human behavior: its origins, uses and abuses, and ways of defining reality. Basic descriptive and ethnosemantic skills used by anthropologists to learn languages in the field.

Repeat for Credit
N

Typically Offered
On sufficient demand

K-State Core
5 Social and Behavioral Sciences

K-State 8
Human Diversity within the U.S.
Social Sciences

ANTH 260 - Introduction to Archeology

Credits: 3

Brief introduction to the field of anthropological archeology. General survey of world prehistory revealing major cultural changes from the development of early foraging societies through the rise of agricultural and complex communities.

Repeat for Credit

N

Typically Offered
Fall, Spring

K-State Core
5 Social and Behavioral Sciences

K-State 8
Historical Perspectives
Social Sciences

ANTH 280 - Introduction to Biological Anthropology

Credits: 4

Provides knowledge regarding the scope of Biological Anthropology, and develop an understanding of: 1) evolutionary theory and evolutionary processes, 2) patterns of adaptation to the environment in primates, and 3) human evolution, human adaptation and human variation. Key concepts/perspectives will include: evolution, selection, adaptation genetics, population genetics, as well as variation and variability.

Note
Requires 3 credit hours lecture and 2 hours lab per week.

Repeat for Credit
N

Typically Offered
Other

K-State Core
4 Natural and Physical Sciences

K-State 8
Historical Perspectives
Natural and Physical Sciences

ANTH 301 - Initiation to Anthropology

Credits: 3

Identify and apply the core elements of the anthropological perspective while learning professional and academic writing and presentation skills.

Repeat for Credit
Y

Requisites
Prerequisite: Declared Anthropology Major/Minor or Instructor permission.

Typically Offered
Fall

K-State 8
Social Sciences

ANTH 305 - Cultures of South Asia

Credits: 3

Provides an interdisciplinary exploration of the disparate cultures and communities of the South Asian region. We will examine thematic issues of colonization, religion, nationalism, modernity, sexuality, gender, globalization and social stratification in their various South Asian contexts.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 200, ANTH 204 or ANTH 210.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Social Sciences

ANTH 310 - Environmental Anthropology: Living with Change in the Anthropocene

Credits: 3

Explores anthropological and human science approaches to the complex causes and consequences of environmental change, including climate change, mass species extinction, industrial pollution, and deforestation. Students learn about economic, cultural, and political drivers of environmental degradation and discuss solutions for a more sustainable future from the perspective of social and cultural theory.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Social Sciences
Global Issues and Perspectives

ANTH 312 - Museums, Cultures, and Collaborations

Credits: 3

Critically examine the cultures and histories of museums and collections in the United States and elsewhere by exploring topics such as: the complexity of representing others; museums, colonization, and power; museum ethics; collaborative museum work with, and by, indigenous communities and curators; the global art and artifact market and growing repatriation movements, etc. Students will get a chance to visit museums, as well as to engage with the ethnography collections housed by the Anthropology program at K-State.

Repeat for Credit
N

Typically Offered
Fall or Spring

ANTH 314 - Introduction to the World's Religions

Credits: 3

Survey of religious beliefs, practices, and experiences from around the world. Emphasis is on religious practices and experiences in different cultural contexts.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives
Social Sciences

ANTH 315 - Introduction to Medical Anthropology & Global Health

Credits: 3

Explores disease, illness, and medical systems from a cross-cultural perspective. Includes the impacts of culture, gender, wealth inequality and other structural conditions on health and well-being.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
5 Social and Behavioral Sciences

K-State 8
Social Sciences
Global Issues and Perspectives

ANTH 316 - Engaged Anthropology

Credits: 3

Applies anthropology to real-world problems, politics, and advocacy in various fields including business, technology, engineering, health, agriculture, conservation, human rights, and international development. Explores anthropological engagement with various social, political, and environmental movements and organizations. Emphasis on ethics in research and practice.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Social Sciences
Ethical Reasoning and Responsibility

ANTH 318 - Topics in Cultural Anthropology

Credits: 3

Exploration of problems in cultural anthropology for both majors and non-majors.

Repeat for Credit
Y

Typically Offered
On sufficient demand

K-State 8

Global Issues and Perspectives
Social Sciences

ANTH 319 - Food and Culture

Credits: 3

An examination of heritage cuisines, nutrition, and diet as a part of daily life, special holidays, and ritual events, as well as how subsistence, taste, and culinary practices have transformed over time and across borders. Anthropological examples from various subcultures will help students consider what the global flow of people, food commodities, and recipes means for our communities, our identities, our palates, and our bodies.

Repeat for Credit
N

Typically Offered
Fall or Spring

ANTH 328 - Topics in Linguistic Anthropology

Credits: 3

Exploration of problems in linguistic anthropology for both majors and non-majors.

Repeat for Credit
Y

Typically Offered
On sufficient demand

K-State 8
Global Issues and Perspectives
Social Sciences

ANTH 350 - Topics for Educators

Credits: 1-4

Examination of selected topics in archaeology, cultural, or linguistic anthropology designed to address education standards in the social sciences.

Note
Does not apply towards requirements for anthropology major or minor.

Repeat for Credit
Y

Typically Offered
On sufficient demand

K-State 8
Historical Perspectives
Social Sciences

ANTH 351 - Special Studies in Anthropology

Credits: 1-3

Explores topics in anthropology through guided field trips (study abroad or domestic excursion).

Repeat for Credit
Y

Typically Offered
Other

ANTH 352 - Topics in Cultural Heritage and Museum Studies

Credits: 3

Anthropological exploration of issues related to cultural heritage institutions including museum management, collections care, interpretation, and public engagement.

Repeat for Credit
Y

Typically Offered
On sufficient demand

ANTH 353 - Museum Collections Management

Credits: 3

Overview of the management and care of tangible objects that form the foundation of museums and other cultural heritage institutions. Introduces policies and procedures essential to ethical collecting and care, particularly preventive conservation.

Repeat for Credit
N

Typically Offered
Fall or Spring

ANTH 364 - Archaeological Myths and Mysteries

Credits: 3

Introduces evidence-based thinking and the scientific method in archaeology through evaluation of "mysteries" of our human past. Explores social factors affecting interpretation of past cultures. Case studies include who "discovered" the Americas, ancient alien intervention, Atlantis, myth of the mound builders, and more.

Note
Designed for non-Anthropology majors.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Historical Perspectives
Social Sciences

ANTH 365 - Exploring Kansas Archaeology

Credits: 3

Exploration of the archaeological record of past Native people of Kansas and the Central Plains and their diverse lifeways.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Historical Perspectives
Human Diversity within the U.S.

ANTH 368 - Topics in Archaeology

Credits: 3

Exploration of problems in archaeology for both majors and non-majors.

Repeat for Credit
Y

Typically Offered
On sufficient demand

K-State 8
Historical Perspectives
Social Sciences

ANTH 380 - Introduction to Human Evolution

Credits: 3

Survey of the human fossil record, including an introduction to evolutionary theory and a discussion of the place that humans occupy among the other primates.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

ANTH 383 - Plagues: The Co-Evolutionary History of Humans and Pathogens

Credits: 3

The course will explore the proximate (mechanistic/physiological) and ultimate (evolutionary) causes of disease from a biocultural and historical perspective.

Repeat for Credit
N

Typically Offered
Fall-Even Years

K-State 8
Historical Perspectives
Natural and Physical Sciences

ANTH 384 - Fundamentals of Forensic Anthropology

Credits: 3

Provide students with basic knowledge of human skeletal anatomy, as well as the principles guiding the recovery and analysis of human remains, and the bioanthropological methods applied in their identification, within a legal context. Will rely on case study examples to familiarize students with the steps and analyses involved in the process of forensic recovery and identification of human remains. The use of case studies will facilitate learning by providing an engaging way to introduce students to Forensic Anthropology.

Repeat for Credit
N

Requisites
Recommended Foundation Course: ANTH 280

Typically Offered
Spring

K-State 8
Natural and Physical Sciences
Empirical and Quantitative Reasoning

ANTH 388 - Topics in Physical Anthropology

Credits: 3

Exploration of problems in physical anthropology for both majors and non-majors.

Repeat for Credit
Y

Typically Offered
On sufficient demand

K-State 8
Natural and Physical Sciences

ANTH 399 - Honors Seminar in Anthropology

Credits: 1-3

Readings and discussion of selected topics.

Note
Open to non-majors in the honors program.

Repeat for Credit
N

Typically Offered
Other

ANTH 499 - Honors Project

Credits: 3

Open only to Arts & Sciences students who are active members of the University Honors Program.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ANTH 501 - Proficiency Development

Credits: 0-3

Integrative review of anthropological concepts and skills under faculty supervision. For single students or groups of students. Not applicable to major field requirements.

Note
For undergraduate credit only. Consent of instructor and superior performance in relevant course.

Repeat for Credit
Y

Typically Offered
On sufficient demand

K-State 8
Social Sciences

ANTH 505 - South Asian Civilizations

Credits: 3

Interdisciplinary survey of the development of civilizations in India, Pakistan, Sri Lanka, Bangladesh, Nepal, Bhutan, and Afghanistan, including geography, philosophy, social, economic, political institution, and historical movements.

Repeat for Credit
N

Requisites
Prerequisite: 3 hours of social science or junior standing.

Typically Offered

Fall-Even Years

Cross-listed
GEOG 505, HIST 505, POLSC 505, SOCIO 505, ECON 505

K-State 8
Global Issues and Perspectives
Social Sciences

ANTH 508 - Asian Religions

Credits: 3

Explores the beliefs, rituals, and cultural practices of selected major Asian Religions, such as Hinduism, Buddhism, Jainism, Sikhism, Confucianism, Taoism, and Shinto.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 204 or ANTH 314. Or sophomore standing.

Typically Offered
On sufficient demand

K-State 8
Global Issues and Perspectives
Social Sciences

ANTH 509 - Cultures of Africa

Credits: 3

Family life, subsistence patterns, exchange systems, languages, religions, and development of the peoples of Africa.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives
Social Sciences

ANTH 510 - New Religions

Credits: 3

Exploration of religions around the world formed in the past 250 years, their beliefs and practices, how and why they formed, and the lived experience of adherents today

Repeat for Credit
N

Requisites
Prerequisite: ANTH 204 or ANTH 314 or sophomore standing.

Typically Offered
Fall or Spring

ANTH 513 - Immigrant America

Credits: 3

Discussion of post-1965 immigration to the United States with a focus on Asian and Latino newcomers. Immigrant adaptation, economic strategies and the reinterpretation of cultural identity. Implications for American society.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 200, ANTH 204, or ANTH 210.

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

ANTH 514 - Narrative Medicine

Credits: 3

Narrative medicine is the use of narrative competency in clinical and other healing contexts to enhance patient, family, or community healing and well-being. Use of well-established research and practice in medical anthropology, the broader medical humanities, and cutting-edge clinical scholarship to help students gain narrative competency. Students will learn why narrative and meaning are critical to healing, how to become aware of patient narratives, and how to practice attention to the stories of others. Students will also learn foundational interpretive skills grounded in close reading and discourse analysis.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 204 or ANTH 220 or ANTH 315 or sophomore standing.

Typically Offered
On sufficient demand

ANTH 515 - Creativity and Culture: The Anthropology of Art

Credits: 3

Explores creativity, aesthetics, and meaning in various visual art subcultures in the U.S. and around the world. Attention is paid to the intersection of art and contemporary social issues including structural racism.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 204 or ANTH 220 or ANTH 312 or ANTH 314. Or sophomore standing.

Typically Offered
On sufficient demand

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

ANTH 516 - Ethnomusicology

Credits: 3

Music, dance, and other performance subcultures from the United States and around the world will be explored in depth. Emphasis is placed on understanding music and dance styles in their cultural context, including how they change in the era of globalization. The class also explores how social identity is expressed through music-making and other performance cultures.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 204 or ANTH 220 or sophomore standing.

Typically Offered
On sufficient demand

K-State 8
Aesthetic Interpretation

ANTH 518 - Topics in Cultural Anthropology

Credits: 1-4

Intensive exploration of themes and topics in cultural anthropology.

Repeat for Credit
Y

Requisites
Prerequisite: ANTH 204 or ANTH 220 or sophomore standing.

Typically Offered
On sufficient demand

K-State 8
Social Sciences

ANTH 525 - Language and Culture

Credits: 3

Study of language and dialect as aspects of social and ethnic group identities. Emphasis on analysis of conversational style in diverse cultural settings. Research project to be determined according to student interests.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 220 or consent of instructor.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

ANTH 528 - Topics in Linguistic Anthropology

Credits: 1-4

Intensive exploration of problems in linguistic anthropology for both major and non-majors with adequate background.

Repeat for Credit
Y

Requisites
Prerequisite: ANTH 220.

Typically Offered
On sufficient demand

ANTH 552 - Topics in Cultural Heritage and Museum Studies

Credits: 3

Anthropological exploration of issues related to cultural heritage institutions including museum management, collections care, interpretation, and public engagement.

Repeat for Credit
Y

Requisites
Prerequisite: ANTH 204 or ANTH 220 or ANTH 260 or ANTH 312 or ANTH 352, or sophomore standing.

Typically Offered
On sufficient demand

ANTH 560 - Archaeological Fact or Fiction: Applied Critical Thinking

Credits: 3

Explores and develops practical critical thinking and research skills using archaeological approaches and case studies. Examines impact of interpretation of the human past on past and present populations.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 260 or equivalent.

Typically Offered
Fall-Even Years

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

ANTH 561 - Archaeological Field Methods

Credits: 1-9

Provides hands-on training in archaeological field methods (i.e., data collection and documentation through archaeological survey and excavation) as part of a research project.

Note
Instructor consent (application required).

Repeat for Credit
Y

Typically Offered
Summer

K-State 8
Empirical and Quantitative Reasoning

ANTH 562 - Archaeological Laboratory Methods

Credits: 3

Hands-on instruction in and application of professional principles of processing, analyzing, and interpreting artifacts and related archeological materials.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 260 or equivalent.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

ANTH 563 - Applied Archaeology

Credits: 3

Training in professional and ethical practice in cultural resource management and public archaeology.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 260 or its equivalent.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility

ANTH 565 - North American Archaeology

Credits: 3

The prehistoric of native cultures of North America explored through the archaeological record from the peopling of the continent, to the spread of agriculture and village life, up to contact period.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 260.

Typically Offered
Spring-Odd Years

K-State 8
Historical Perspectives

ANTH 568 - Topics in Archaeology

Credits: 1-4

Intensive exploration of archaeological problems for both major and non-majors with adequate background.

Repeat for Credit
Y

Requisites
Prerequisite: ANTH 260.

Typically Offered
On sufficient demand

ANTH 588 - Topics in Physical Anthropology

Credits: 1-4

Intensive exploration of problems in physical anthropology for both major and non-majors with adequate background.

Repeat for Credit
Y

Requisites
Prerequisite: ANTH 280 and ANTH 281.

Typically Offered
On sufficient demand

K-State 8
Natural and Physical Sciences

ANTH 602 - Anthropological Theory

Credits: 3

Exploration of the major theoretical approaches in the principal branches of anthropology.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 204 or ANTH 220 or ANTH 260 or sophomore standing.

Typically Offered
On sufficient demand

K-State 8
Historical Perspectives

ANTH 605 - North American Indians

Credits: 3

Description and comparison of native cultures of Canada and the United States; culture contact and change among surviving groups.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 200 or ANTH 210 or ANTH 260.

Typically Offered
Spring

K-State 8
Social Sciences

ANTH 606 - South American Indians

Credits: 3

A survey of the nature and variability of the original cultures of Latin America. Analysis of sample cultures, stressing economic, social, political, and religious structures.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 200 or ANTH 210 or ANTH 260.

Typically Offered
On sufficient demand

K-State 8
Social Sciences

ANTH 612 - Ethnohistory

Credits: 3

Introduction to ethnohistory as an anthropological research method.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 204 or ANTH 220 or ANTH 260 or sophomore standing.

Typically Offered
On sufficient demand

ANTH 613 - Gender, Power, and International Development

Credits: 3

Examination of various models of development and their impact on various roles of woman and men in various cultures. Emphasis upon Africa, Asia, and Latin America. Comparisons of public, service, and economics sectors, including agriculture, marketing, and industry. Examination of policy issues.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211 or ANTH 200 or ANTH 210 and 3 additional hours in sociology or cultural anthropology.

Typically Offered
On sufficient demand

Cross-listed
SOCIO 633

K-State 8
Global Issues and Perspectives
Social Sciences

ANTH 615 - Race and Culture

Credits: 3

The biological meaning of race; the interrelationships of biological and cultural traits in human evolution; processes of racial formation of man; methods of classifying human races; cultural inheritance; the distinction of race, culture, personality, and intelligence; a review of modern racism; race as an evolutionary episode.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 200, ANTH 210 or ANTH 280.

Typically Offered
On sufficient demand

K-State 8
Human Diversity within the U.S.

ANTH 616 - Anthropology of the Future: Apocalypse, Prophecy, and Hope

Credits: 3

Explores the culturally construction notion of "the future" by exploring discourses of time, divination, utopia, prophecy, world-endings and world-renewals from various societies around the world.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 204 or ANTH 314 or sophomore standing

Typically Offered
On sufficient demand

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

ANTH 618 - Religion in Culture

Credits: 3

The nature of religion in different cultural systems.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 200 or ANTH 210 or SOCIO 211.

Typically Offered
Fall

Cross-listed
SOCIO 618

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

ANTH 651 - Internship in Applied Anthropology

Credits: 3

Supervised field experience of at least three weeks full time or 150 hours part time with an organization or institution in the application of anthropological approaches to problem solving and working in a professional setting. Emphasis is on anthropological skills in relation to the objectives and operations of an institution.

Note
Open to anthropology major only.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 519 and junior and consent of program coordinator.

Typically Offered
Fall, Spring, Summer

ANTH 652 - Internship in Museology

Credits: 3

Practical professional museum experience of at least three weeks full time or 150 hours part time in the processing of collections, conservation, cataloging, archive and library maintenance, and/or planning and preparation of exhibits.

Note
Instructor Permission

Repeat for Credit
Y

Requisites
Corequisite: Any 3 credits of ANTH.

Typically Offered
Fall, Spring, Summer

ANTH 659 - Independent Reading and Research in Anthropology

Credits: 1-3

Guided reading and research on a specific anthropological topic of student interest, leading to preparation of a research paper.

Note
Topic and credit to be arranged.

Repeat for Credit
Y

Requisites
Prerequisite: Three hours of anthropology and consent of instructor.

Typically Offered
Fall, Spring

ANTH 663 - Andean Archaeology

Credits: 3

Examines the economic, social, and political development

of the region, including the Tawantinsuya (Inca Empire). Covers the adoption of agriculture; the origin of the state; power; and the role of religion, cosmology, ideology, and art.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 260.

Typically Offered
Spring

K-State 8
Historical Perspectives

ANTH 665 - European Archaeology

Credits: 3

Survey of human prehistory in Europe from the earliest Paleolithic hominins to evolve in Europe, expansion of *Homo sapiens* and associated cultural developments, the spread of agriculture, diversity of Bronze Age adaptations, to the development of Celtic societies. Studies of archaeological and related evidence are investigated to interpret the dynamics of past ways of living.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 260.

Typically Offered
Spring-Even Years

K-State 8
Historical Perspectives

ANTH 680 - Forensic Anthropology

Credits: 4

Anthropological survey of the predominantly biological areas of forensic science, their methods and techniques, as they pertain to the application of that science to the purpose of the law. Particular emphasis will be given to perspectives about the science itself, its application to anthropology, and the unique ways in which that science may be used by law.

Repeat for Credit
N

Requisites
Prerequisite: A life science with laboratory requirement in the College of Arts and Sciences or the consent of the instructor.

Typically Offered
Fall-Even Years

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ANTH 681 - Primatology

Credits: 3

Survey of the primate order including considerations of evolution, morphology, and behavior. Particular emphasis will be given to developing perspectives about the origin and evolution of hominids in the context of the primate order.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 280 or consent of instructor.

Typically Offered
On sufficient demand

K-State 8
Natural and Physical Sciences

ANTH 682 - Human Growth and Development

Credits: 3

Provides an anthropological examination of the process of growth and development in humans that emphasizes both the biological, evolutionary, and cultural aspects that have shaped them through time. Emphasis is given to the evolution of the life cycle, as well as the social and environmental conditions that affect human growth.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 280 or instructor's permission.

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

ANTH 683 - Osteology

Credits: 4

Detailed study of human skeleton, with special attention to health and demographic conditions in prehistoric cultures and the evaluation of physical characteristics and genetic relationships of prehistoric populations. Laboratory demonstration and exercise in working with skeletal material for analysis of sex, age, stature, and race. Complete metric and nonmetric analysis with consideration given to paleodemography, paleopathology in situ analysis and excavation, and preservation.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 280 or consent of instructor.

Typically Offered
Spring-Even Years

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ANTH 686 - Bioarchaeology

Credits: 3

Explores how archaeologists and bioanthropologists approach the study of death, mortuary practices and skeletal remains, to reconstruct past lives and understand the associated behavior.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 280 or instructor's consent.

Typically Offered
Spring

K-State 8
Natural and Physical Sciences
Social Sciences

ANTH 687 - Seminar in Osteology

Credits: 2

Analysis of human and nonhuman skeletal remains including age, sex, stature, race, anomalities, pathologies, trauma, metric and nonmetric traits, cause of death, and time since death. This course allows greater breadth and depth of osteological analysis than either ANTH 694 or ANTH 695, and allows for more concentration on individual methods and techniques and case studies.

Repeat for Credit
Y

Requisites
Prerequisite: ANTH 694 and ANTH 695.

Typically Offered
On sufficient demand

K-State 8
Natural and Physical Sciences

ANTH 688 - Paleoanthropology

Credits: 3

Human origins and evolution as indicated by fossil evidence; interpretation of man-apes, Pithecanthropus, Neanderthal, Cro-Magnon, and other major fossil groups within the context of evolutionary theory, primate comparisons, and cultural evolution.

Note
Lecture and lab.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 200 or ANTH 280 or consent of instructor.

Typically Offered
Spring-Odd Years

K-State 8
Natural and Physical Sciences

ANTH 710 - Writing Cultures: Ethnographic Methods

Credits: 3

An introduction to qualitative field methods and research ethics in cultural anthropology. Students will examine issues of truth, representation, and reflexivity in ethnographic writing.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 204 or ANTH 220 or junior standing.

Typically Offered
On sufficient demand

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

ANTH 715 - Research Methods in Digital Ethnography

Credits: 3

A hands-on exploration of the uses of digital technology for ethnographic research and representation.

Note
Consent of instructor

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Social Sciences

ANTH 720 - Field Methods in Linguistics

Credits: 3

Techniques of collecting and analyzing linguistic data in the field. Work with language consultants in class, on languages such as Swahili.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 220

Typically Offered
On sufficient demand

AP 600 - Introduction to Pharmacology for Health Professionals

Credits: 3

Introduction to Pharmacology for Health Professionals is designed to provide an introduction to the principles of pharmacology and how they apply to health professionals.

Repeat for Credit
N

Requisites
Prerequisites: BIOL 198, CHM 110, BIOCH 571, OR ASI 533 OR BIOL 442 OR KIN 360 OR current standing in Veterinary Medicine OR instructor consent.

Typically Offered
Spring

AP 601 - Cardiorespiratory Physiology

Credits: 3

An examination of the structure and function of the respiratory system and the manner in which oxygen passes from the atmosphere to its site of utilization in the mitochondria. Exercise, disease, and environmental stresses will form the basis for examining the capacity, plasticity, and limitations to respiratory function.

Repeat for Credit
N

Requisites
Prerequisite: 6 hrs in Kinesiology 500 and above.

Typically Offered
Fall

Cross-listed
KIN 601

AP 603 - Cardiovascular Physiology

Credits: 3

Study of the structure and function of the cardiovascular system as it pertains to health and disease. Topics include the control of blood pressure, vascular volume, and blood flow during orthostasis, aging and disease.

Repeat for Credit
N

Requisites
Prerequisite: KIN 250 and KIN 335.

Typically Offered
Spring

Cross-listed
KIN 603

AP 641 - Histology for Health Professions

Credits: 3

A brief introduction to the microscopic structure of the cells and tissues of a mammalian body. The class format will be a lecture followed by a laboratory session. The lectures will introduce the day's material, which will then be developed through laboratory sessions that include using light microscopy to read and interpret micrographs, drawing, making glass slides.

Note
Intended for Graduate Credit

Repeat for Credit
N

Typically Offered
Summer

AP 711 - Stem Cells and Comparative Biomedicine

Credits: 2

Characteristics of major categories of stem cells. Applicable or potential clinical uses, including their utilization in tissue engineering or targeted delivery of therapeutics.

Repeat for Credit
N

Typically Offered
Spring, Summer

AP 737 - Introduction to Cell Physiology

Credits: 2

An introduction to cellular physiology. The objective of this course is to introduce students to the principles of cellular physiology and prepare them to apply the knowledge of cellular physiology to other medical disciplines such as Pharmacology.

Note
Intended for Graduate Credit

Repeat for Credit
N

Requisites
Prerequisite: Admission to the One Year Master's program in Anatomy & Physiology or similar background (CHM 350, BIOCH 521)

Typically Offered
Summer

AP 740 - Study Methods and Career Preparation for Health Professional Students

Credits: 1

Introduces and examines research-based study methods that are applicable to advanced study in medical sciences. Challenges students to identify and improve current study habits. Prepares students to prepare an effective application to professional school.

Note
Intended for Graduate Credit

Repeat for Credit
N

Typically Offered
Fall

AP 743 - Systems Physiology

Credits: 4

An introduction to human physiology. The physiology of each body system will be introduced and important

variations in medically relevant species will be compared.

Note
Intended for Graduate Credit

Repeat for Credit
N

Requisites
Prerequisites:
CHM350 or equivalent
BIOL198 or equivalent
BIOCH521 or BIOL541 or equivalent
OR permission of instructor

Typically Offered
Fall

AP 773 - Bioinstrumentation Laboratory

Credits: 1

Practical experience with and evaluation of laboratory and clinical techniques related to electrodes, transducers, computer-based data acquisition and analysis.

Note
Three hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: AP 747 or equivalent and concurrent enrollment in ECE 772.

Typically Offered
Fall-Even Years

AP 788 - Basic and Applied Pharmacokinetics

Credits: 3

This course is designed to provide students with fundamental concepts and principles of absorption, distribution, metabolism and elimination of drugs, environmental chemicals, and nanomaterials by the body. The course also covers actual applications of the pharmacokinetic knowledge using case studies of commonly dosed drugs, common environmental contaminants, and nanomaterials.

Repeat for Credit
N

Typically Offered
Fall-even years

AP 790 - Problems in Anatomy and Physiology

Credits: 1-18

Introduction of undergraduate and graduate students to research involving various anatomical and physiological systems.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

AP 796 - Topics in Exercise Physiology

Credits: 1-4

Intensive study of a selected topic in Exercise Physiology involving either great in-depth study, or application of theory presented in a related course.

Repeat for Credit
Y

Requisites
Prerequisite: KIN 335, KIN 336. Only 6 hours may be counted toward degree.

Typically Offered
Fall, Spring, Summer

Cross-listed
KIN 796

AP 803 - Seminar

Credits: 1

Designed primarily for graduate and senior students enrolled for graduate credit in physiology. Each student is required to give a report on some subject related to physiology. The course is intended to stimulate interest in

research and evaluation of data.

Note
One hour a week.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of staff.

Typically Offered
Fall, Spring, Summer

AP 805 - Cell Physiology

Credits: 3

Functions of the animal body are described with a primary focus at the cellular and molecular level with correlations to clinical topics. Course content builds on knowledge of chemistry, biochemistry, physics and biology. Basic physiological and pathophysiological mechanisms are examined in the context of the cell environment, intermediary metabolism and cell signaling.

Repeat for Credit
N

Requisites
Standing as 1st year DVM student or permission of course instructors

Typically Offered
Fall

AP 806 - Gross Anatomy I

Credits: 6

Gross dissection of the dog with comparative aspects of the cat.

Note
Two hours lecture and nine hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: First-year standing in College of Veterinary Medicine or consent of the instructor.

Typically Offered
Fall

AP 807 - Integrated Physiological Systems 1

Credits: 5-6

Microstructure and function of the cardiovascular, endocrine, respiratory, and renal systems of domestic animals with emphasis on physiologic control mechanisms, interrelationships of body systems, and criteria for evaluating animal health.

Microanatomy laboratory is restricted to DVM students. Graduate students should enroll in 5 credits unless they have made arrangements with the course instructor.

Repeat for Credit
N

Requisites
Standing as a 1st year veterinary student, graduate student in Anatomy & Physiology, or equivalent

Typically Offered
Fall

AP 808 - Introduction to Veterinary Medicine and Biomedical Research: Concepts and Values

Credits: 1

This course is intended to provide first-year students an opportunity to experience the depth of veterinary/biomedical research required to advance the practice of veterinary medicine, and advance the field of medicine in general. The students will examine the challenges of conducting 1) foundational and translation research (genetic/genomic and mechanistic research), 2) foundational and applications to clinical research 3) population and observational research (epidemiology, prospective clinical trials, retrospective studies), 4) pharmacologic research (the impact of pharmacology on the biomedical sciences). The students will examine relevant connections, consider conceptual relationships, and critically evaluate integrative issues germane to both the practice of and the innovative progress of veterinary medicine. Faculty members in the Departments of A&P, DM/P, and CS, will present topical overviews, based on their professional experiences. This will be designed to connect and integrate fundamental principles and

relationships between research and clinical application. These presentations provide examples of the fundamental requirements for clinical therapies and also provide examples of how innovative science leads to new therapies for long standing clinical disease. Additionally, students will learn the tools required to search relevant topic to their career paths within the medical literature. Finally, drawing on the multidisciplinary literature presented by faculty, students will explore the challenges in conducting genetic/genomic research, using genomic information, implementing research results to clinical practice, as well as addressing the social, legal, and professional policies that are emerging from new research. Students will be expected to do reading and to complete online worksheets and present their findings/opinions in class. Class time will be devoted to presentations and to discussion of readings and related current events.

Repeat for Credit
N

Typically Offered
Fall

AP 816 - Gross Anatomy II

Credits: 5

Gross dissection of the horse and ruminant with comparative aspects of the pig, laboratory animals, and the chicken.

Note
Three hours lecture and nine hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AP 806.

Typically Offered
Spring

AP 817 - Integrated Physiological Systems 2

Credits: 3-4

Microstructure and function of the reproductive and digestive systems of domestic animals with emphasis on physiologic control mechanisms, interrelationships of body systems, and criteria for evaluating animal health. Microanatomy laboratory is restricted to DVM students. Graduate students should enroll in 3 credits unless they have made arrangements with the course instructor.

Repeat for Credit
N

Requisites
Graduate student status in Anatomy & Physiology or equivalent

Typically Offered
Spring

AP 822 - Advanced Muscle Physiology

Credits: 3

Course will examine current topics in muscle physiology. Format to include discussion of scientific papers, oral presentations, and debate of controversial topics.

Repeat for Credit
N

Requisites
Prerequisite: KIN 335 or permission of instructor

Typically Offered
Spring

AP 824 - Physiology of Oxygen Transport

Credits: 3

This course is designed to promote critical reading of the literature, particularly with respect to the understanding of exercise physiology and cardiorespiratory, vascular and muscle energetics responses. Activities will include presenting papers, debate and discussion regarding all aspects of science and scientific philosophy.

Repeat for Credit
N

Requisites
Prerequisite: KIN 335 or permission of instructor

Typically Offered
Spring

AP 825 - Special Anatomy

Credits: 1-18

The gross and/or microscopic study of any system (or systems) of any domestic animal.

Repeat for Credit
Y

Requisites
Prerequisite: AP 700 or AP 710 or equivalent and consent of staff.

Typically Offered
Fall, Spring, Summer

AP 826 - Advanced Cardiovascular Physiology

Credits: 3

Discussion and critical examination of cardiovascular control mechanisms, with specific emphasis on regulation of blood pressure during severe challenges such as exercise, heat stress, and upright posture.

Repeat for Credit
N

Requisites
Prerequisite: KIN 335 or permission of instructor

Typically Offered
Fall

AP 828 - Electricity in Biological Systems

Credits: 2

This course provides students in the life and/or physical sciences with foundational understanding of electrical concepts that contribute to life processes spanning the molecular, cellular, systems, and ultimately organismal levels. Historical and cultural discussions of bioelectric phenomena introduce essential concepts for further consideration through critical reading of primary literature.

Repeat for Credit
N

Requisites
Prerequisite: AP805, AP807, AP817 or equivalent physiology courses and permission of the instructor

Typically Offered
Spring

AP 830 - Toxins in the Biological System

Credits: 2

An advanced toxicology course concerned with the cellular land subcellular effects of various groups of toxins on the intact animal organism.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 521, CHM 531 or CHM 550, AP 844 or consent of instructor.

Typically Offered
Fall-Odd Years

AP 831 - Current Topics in Toxicology

Credits: 2

An advanced toxicology course providing in-depth examination of toxicological area of current relevance to and/or controversy on mammalian health.

Note
Specific topics will change from semester to semester. Student in Ph.D. programs may repeat the course.

Repeat for Credit
Y

Requisites
Prerequisite: BIOCH 521 and AP 818.

Typically Offered
Other

AP 832 - Problems in Toxicology

Credits: 1-18

Individual investigations into the interactions of chemical compounds with living systems.

Repeat for Credit
Y

Requisites
Prerequisite: AP 871.

Typically Offered
Fall, Spring, Summer

AP 835 - Animal Care and Welfare

Credits: 1

This course will describe the veterinarian's role in protecting the health and welfare of animals. Students will be introduced to the major philosophical positions of animal use. The evolution of animal welfare science will be discussed and students will learn how to assess the welfare of companion, laboratory, zoo and food animals. Common causes of reduced animal welfare and ethical dilemmas will be covered.

Repeat for Credit
N

Typically Offered
Fall

Cross-listed
VAP 835 Animal Care and Welfare

AP 838 - Anatomy 1

Credits: 3

Part 1 of the comparative anatomy sequence (AP 838, AP 842). An introduction to comparative anatomy with a focus on human clinical anatomy.

Repeat for Credit
N

Requisites
Enrollment in the One Year Master's (non-thesis M.S. in Veterinary Biomedical Science) program or permission of instructor.

Typically Offered
Summer

AP 839 - Biomedical Methods Laboratory

Credits: 3

An introduction to the theory and practice of advanced biomedical laboratory techniques.

Repeat for Credit
N

Requisites
Acceptance into the Veterinary Biomedical Science M.S. non-thesis track ("One Year Master's Program") or permission of instructor.

Typically Offered
Spring

AP 842 - Anatomy 2

Credits: 3

An introduction to comparative human and domestic animal anatomy with a focus on clinical relevance.

Repeat for Credit
N

Typically Offered
Fall

AP 844 - Pharmacology I

Credits: 4

The basic principles of pharmacology, the interactions of drugs and living systems including fundamental principles of pharmacokinetics, pharmacodynamics, receptor-coupling, and mechanisms of action. A systems-based approach to drug classes will be emphasized.

Note
Four hours of lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: AP 804 and AP 818 or equivalent.

Typically Offered
Fall

AP 846 - Pharmacology II

Credits: 2

The basic principles of pharmacology, the relationship of

drug actions and interactions on physiological principles and pathophysiological conditions. Pharmacokinetics, pharmacodynamics, and a systems-based approach to drug classes will be emphasized.

Repeat for Credit
N

Requisites
Prerequisite: Student must have a "C" or higher in AP 844 and DMP 712.

Typically Offered
Spring

AP 850 - Stem Cell Techniques

Credits: 2

Cellular and molecular techniques and techniques on tissue culture. Lecture and laboratory hours to be determined.

Repeat for Credit
Y

Typically Offered
Fall, Summer

AP 855 - Observing and Analyzing Animal Behavior

Credits: 1

This course will guide students on how to design, conduct, and analyze animal behavior experiments. The course will emphasize the development of an ethogram and the proper way to score animal behavior, including counts, duration, latencies, and bouts. Students will develop their own ethogram to score and analyze the behaviors of a focal animal and present the data as a written project.

Repeat for Credit
N

Typically Offered
Spring

AP 861 - Ultrastructural Interpretation of the Nervous System

Credits: 3

Study of the fine structure of neurons, axons, synapses, neuroglia and choroid plexus, the interconnections among neurons, the location of specific tracers and antibodies which define synaptic terminals, and a survey of methodologies used with transmission electron microscopy.

Repeat for Credit
Y

Requisites
Prerequisite: Biol. 541 or AP 710.

Typically Offered
Spring

AP 870 - Advanced Cardiovascular Physiology

Credits: 2

Comprehensive overview of cardiovascular physiology in domestic animals with special emphasis on the dog and horse, including current research.

Repeat for Credit
N

Requisites
Prerequisite: AP 747 or equivalent.

Typically Offered
Fall-Odd Years

AP 871 - Toxicology

Credits: 3

Effects of harmful substances on the animal body. Emphasis placed on toxicologic principles and management of the poisoned patient.

Repeat for Credit
N

Requisites
Prerequisite: Third-year standing in the College of Veterinary Medicine or Graduate Student in the College of Veterinary Medicine, BIOCH 521, and AP 818.

Typically Offered
Spring

AP 873 - Physiologically Based Pharmacokinetic Modeling

Credits: 4

This modeling course is designed for life science graduate students with an interest in computational toxicology and pharmacology. Development of physiologically based pharmacokinetic (PBPK) models for environmental chemicals, drugs, and nanomaterials in laboratory animals, food-producing animals, companion animals, and/or humans will be introduced. Applications of PBPK models in food safety, toxicology, risk assessment, and pharmaceutical industry will be discussed. This course will cover theory, application software, experimental design, model development, optimization, validation, evaluation, and extrapolation. The expected outcome is that the student will have PBPK modeling knowledge and skills to develop a PBPK model with some mentoring from an experienced PBPK modeler. Format will include both weekly lectures and hands-on computer lab exercises.

Note
Course objectives
(1) To provide the student with working knowledge of physiologically based pharmacokinetic models and their applications in toxicology
(2) To provide students with the technical ability to develop PBPK models for use in their graduate research and careers

Course evaluation:
(1) Grades will be determined from two written tests (20% each), computer lab simulation exercises/assignments (20%), a project presentation which demonstrates the development of a PBPK model and the application of the PBPK model in toxicology (40%).
(2) All grading will be administered through K-State online.

Repeat for Credit
N

Requisites
Prerequisite: Consent of instructor and 1 semester of calculus, physiology, pharmacology, pharmacokinetics, toxicology or biochemistry.

Typically Offered
Spring

AP 874 - Clinical Pharmacokinetics

Credits: 3

An overview of pharmacokinetics with emphasis on practical implications for the clinician, including bioavailability, bioequivalence, residues in food of animal origin, dosage forms and regimens, therapeutic drug monitoring, drug interactions, interspecies difference, and the effect of disease on the pharmacokinetics of drugs. Background in physiology and statistics strongly recommended.

Repeat for Credit
N

Typically Offered
Fall

AP 880 - Mechanisms of Drug Action

Credits: 3

Discussion of pharmacologic mechanisms at the molecular and cellular level, including receptors, second messengers, and pharmacokinetics. Specialized areas of pharmacology such as neuropharmacology and drug design will be discussed. Areas of current research interest will be emphasized.

Repeat for Credit
Y

Requisites
Prerequisite: BIOCH 521.

Typically Offered
Fall-Even Years

AP 890 - Problems in Pharmacology

Credits: 1-18

Individual investigations of the interactions of pharmaceutical compounds with living systems.

Repeat for Credit
Y

Requisites
Prerequisite: AP 770.

Typically Offered
Fall, Spring, Summer

AP 893 - Introduction to Nanomedicine

Credits: 1

This course is a brief introduction to nanomaterials and nanomedicine with a focus on clinical applications of nanotechnology. The course presents basic principles of nanotechnology; current clinical applications of nanomedicine; future horizons in nanomedicine.

Repeat for Credit
N

Typically Offered
Spring

Cross-listed
VAP 893

AP 894 - Comparative Embryology

Credits: 1

An overview of development anatomy as it relates to clinically important developmental defects and/or normal structure and function of common domestic animals.

Repeat for Credit
N

Requisites
Enrollment in the One Year Master's (non-thesis M.S. in Veterinary Biomedical Science) program or permission of instructor.

Typically Offered
Fall

AP 895 - Equine Exercise Physiology

Credits: 2

Comprehensive overview of the physiology of exercise in the horse with comparison to other species. Emphasis will be on cardiovascular, respiratory, and musculoskeletal systems, including current research.

Repeat for Credit
N

Requisites
Prerequisite: AP 747 or equivalent.

Typically Offered
Fall-Even Years

AP 896 - Introduction to Responsible Conduct of Biomedical Research

Credits: 2

This course will focus on providing graduate/professional students an introduction to the regulations, practices, ethical considerations, and professional interactions that define responsible conduct of biomedical research. Investigator responsibilities associated with initiating and establishing a research program, conducting experimental studies, analyzing and reporting data, publishing in peer-reviewed journals, considerations for submitting grant applications, and understanding compliance issues and regulations will be emphasized. Students will learn through reading journal articles and discussion of pertinent topics to identify and consider issues that are germane to the biomedical research environment.

Repeat for Credit
N

Typically Offered
Fall

AP 897 - Problems in Animal Welfare

Credits: 1

This course will expand on the role of veterinarians in the field of animal welfare. Students will be introduced to the major philosophical positions of animal use. The evolution of animal welfare science will be discussed and students will learn how to assess the welfare of companion, laboratory, zoo and food animals. Contemporary issues in animal welfare will also be explored.

Repeat for Credit
N

Requisites
Recommended Prerequisite: VAP835 or AP835

Typically Offered
Spring

AP 898 - Master's Report

Credits: 2

Master's Report

Repeat for Credit
Y

Requisites
Prerequisite: Consent of staff.

Typically Offered
Fall, Spring, Summer

AP 899 - Research

Credits: 1-6

For graduate students in the field of anatomy or physiology working toward the M.S. Degree.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of staff.

Typically Offered
Fall, Spring, Summer

AP 925 - Advanced Physiology

Credits: 3-5

The principles and techniques in the investigation of bioelectrical phenomena in relation to: (a) the physiology of the digestive organs, (b) myophysiology, (c) endocrinology, and (d) neurophysiology. Advanced physiological experiments will be conducted to provide an understanding of the applications of electronic equipment.

Note
recitation and two three-hour labs a week.

Repeat for Credit
Y

Requisites
Prerequisite: AP 747 and consent of staff.

Typically Offered
Fall, Spring, Summer

AP 995 - Problems in Physiology

Credits: 1-18

Special problem-involving techniques utilized in studying the function of various organ systems of the body.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

AP 999 - Research in Physiology

Credits: 1-6

For graduate students working toward the Ph.D. Degree.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of staff. Animal science and industry courses. The M.or Ph.D. program of study shall include supportive course work from several departments including statistics, biochemistry, anatomy and physiology, biology, grain science and others. Graduate level courses offered in the Department of Animal Sciences and Industry are listed below.

Typically Offered
Fall, Spring, Summer

ARAB 101 - Arabic I

Credits: 4

Introduction to the structure of modern Arabic. Essentials of grammar, speaking, reading, and writing.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8

Aesthetic Interpretation
Global Issues and Perspectives

ARAB 102 - Arabic II

Credits: 4

Continuation of Arabic I.

Repeat for Credit
N

Requisites
Prerequisite: ARAB 101 or equivalent.

Typically Offered
Other

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

ARAB 201 - Arabic III

Credits: 5

Further development of four skills of listening, speaking, reading, and writing; with emphasis on building and applying basic language knowledge in communicative tasks; exercises in oral interactions and interactions involving text.

Repeat for Credit
N

Requisites
Prerequisite: ARAB 102 or equivalent.

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

ARAB 301 - Arabic IV

Credits: 5

Continuation of Arabic III.

Repeat for Credit
N

Requisites
Prerequisite: ARAB 201 or equivalent.

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

ARAB 501 - Arabic V

Credits: 4

Further development of language and culture skills.

Repeat for Credit
N

Requisites
Prerequisite: ARAB 282 or equivalent.

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

ARAB 502 - Arabic VI

Credits: 4

A continuation of Arabic V, with further development of language and culture skills.

Repeat for Credit
N

Requisites
Prerequisite: ARAB 501 or equivalent.

Typically Offered
Other

K-State 8

Aesthetic Interpretation
Global Issues and Perspectives

ARAB 540 - Special Studies in Arabic

Credits: 1-18

Special Studies in Arabic

Note
Consent of the department head and instructor involved.

Repeat for Credit
Y

Typically Offered
Other

K-State 8
Aesthetic Interpretation

ARCH 240 - Science, Technology, and Architecture

Credits: 3

An exploration of the interrelationships between architecture and various sciences including the technological applications of selected scientific theories.

Note
Non-majors may take this course for UGE credit, but it will not fulfill UGE requirements for majors. However, it may be taken as a professional support elective (PSE) by architecture students.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ARCH 248 - Fundamentals of Architectural Technology

Credits: 3

Instruction in the fundamentals of architectural technology with emphasis on the concepts and principles necessary for developing an integrated approach to building design.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: Admission to a professional program in the college.

Typically Offered
Fall, Spring

Cross-listed
IARC 248: Fundamentals of Architectural Technology

ARCH 252 - History of Contemporary Architecture

Credits: 3

A critical exploration of key ideas, practices, and works that have shaped the global history of architecture in the 20th and 21st centuries.

Repeat for Credit
N

Requisites
Prerequisite: ENVD 251 or permission of instructor.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Historical Perspectives

ARCH 265 - Basic Problems in Architectural Design

Credits: 1-18

Study of specific architectural design problems under the direction of a member of the architecture faculty.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ARCH 274 - Digital Architecture I

Credits: 1

This course will introduce students to digital management concepts, basic architectural digital representation, 3-dimensional computer modeling, raster, and vector graphics with an emphasis on conceptual development.

Repeat for Credit
N

Requisites
Prerequisites: Second year standing or higher, or permission of the instructor.

Typically Offered
Fall, Spring, Summer

ARCH 290 - Architecture Through the Ages

Credits: 3

An introductory survey of the history of architecture worldwide from its prehistoric beginnings up to the present day.

Note
May not be taken for credit by students enrolled in the College of Architecture, Planning and Design.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ARCH 299 - Appreciation of Architecture

Credits: 3

An analysis of the evolution of architectural styles to determine the relation of architectural expression to the needs of society.

Note
Three hours recitation a week. May not be taken for credit by students enrolled in the architecture, landscape architecture, or interior architecture curricula.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

ARCH 302 - Architectural Design Studio I

Credits: 5

Instruction in architectural design focusing on the application of elements and principles of form and space in design. Instruction in the use of techniques for visually representing design ideas.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the architecture program and ENVD 202.

Typically Offered
Fall

ARCH 304 - Architectural Design Studio II

Credits: 5

Instruction in architectural design focusing on the synthesis of basic social, functional, technical, and aesthetic factors in design. Continued instruction in techniques for visually representing design ideas.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 302 and no grade lower than a C in an architectural design studio course.

Typically Offered
Spring

ARCH 325 - Introduction to Architectural Theory

Credits: 3

An introduction to the ideas and literature that have driven architectural discourse and informed practice through various eras.

Repeat for Credit
N

Requisites
Prerequisite: Second-year standing or permission of instructor.

Typically Offered
Fall, Spring

ARCH 347 - Structural Systems in Architecture I

Credits: 4

Introduction to structure as a building system. Overview of contemporary structural systems and their components, including wood, timber, steel, concrete, masonry, and hybrid structures. Discussion of building code requirements for structure, general guidelines for building structures, including appropriate application, and methods for schematic estimation of structural member sizing. Basic understanding of how gravity and lateral forces are propagated through a structural frame from load to building foundation.

Note
Three hours lecture, two hours laboratory per week.

This course replaces ARCH 348 and ARCH 449.

Repeat for Credit
N

Requisites
Prerequisites: PHYS 113 or PHYS 115, MATH 100 or higher, ARCH 248, and admission to a professional program in the college.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ARCH 348 - Structural Systems in Architecture I

Credits: 3

Introduction to statics; force analysis and the study of forces in equilibrium; principles of statics as applied to the study of simple elemental structures; the origin, the nature, and the action of loads on structural systems. Instruction in the use of statics in the preliminary stages of building design. For ARCH and IAPD students.

Note
Three hours lecture, two hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 113 or PHYS 115, MATH 100 or higher.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ARCH 373 - Digital Architecture II

Credits: 1

This course will introduce students to methods for digital 3-dimensional visualization, including rendering, animation, compositing and analysis.

Repeat for Credit
N

Requisites
Prerequisite: Second year standing or higher, or permission of the instructor.

Typically Offered
Fall, Spring, Summer

ARCH 374 - Digital Architecture III

Credits: 1

This course will introduce students to parametric and associative modeling methods for conceptual development, the design and representation of building assemblies and systems, and architectural documentation.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 274, ARCH 373, or permission of the instructor.

Typically Offered
Fall, Spring, Summer

ARCH 401 - Accelerated Architectural Design Studio I

Credits: 5

An introduction to the principles, processes and vocabularies of architectural design; basic architectural concerns (space/light/form and human factors); and techniques for visually representing design ideas (sketching/diagramming/instrument-aided drawings and model making).

Repeat for Credit
N

Requisites
Prerequisite: Admission to the post-baccalaureate track of the Master of Architecture Program.

Typically Offered
Fall

ARCH 402 - Accelerated Architectural Design Studio II

Credits: 5

Further development of the ideas skills and methodologies introduced in ARCH 401, and introduction to wider array of architectural concerns including social, functional, technical, contextual, and professional issues. The course will prepare students to enter the third-year architectural design studios.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 401, and no grade lower than a C in an architectural design studio course.

Typically Offered
Fall

ARCH 403 - Architectural Design Studio III

Credits: 5

Relation of structures to their environment; client and community restraint; development of building programs; synthesis of functional, technical, and aesthetic considerations in the design of structures for human use.

Note
Twelve hours studio a week.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 304 or ARCH 402, and no grade lower than a C in an architectural design studio course.

Typically Offered
Fall

ARCH 404 - Architectural Design Studio IV

Credits: 5

Relation of structures to their environment; client and community restraint; development of building programs; synthesis of functional, technical, and aesthetic considerations in the design of structures for human use.

Note
Twelve hours studio a week.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 403 and no grade lower than a C in an architectural design studio course.

Typically Offered
Spring

ARCH 413 - Environmental Systems in Architecture I

Credits: 4

Instruction in environmental and building control systems of architecture, including bioclimatic and ecological design principles. Emphasis on integrated system design approach, with a focus on passive and natural strategies. Contemporary and developing approaches are explored.

Note
Three hours lecture and one hour recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 248 or IARC 248 and enrollment in a professional program in the college.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

ARCH 433 - Building Construction Systems in Architecture I

Credits: 3

A lecture course that develops an understanding of how materials and systems assembly reinforce and extend the intentions of the designer as well as an understanding of the strategies and techniques for integration and coordination of the building components. For ARCH and IAPD students.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 248 and admission to a professional program in the college.

Typically Offered
Fall, Spring

ARCH 434 - Building Construction Systems in Architecture II

Credits: 3

This course develops a more sophisticated level of understanding of how materials and systems assembly reinforce and extend the intentions of the designer. Students will develop their ability to both analyze and employ building construction techniques and assemblies as a design generator in preparation for Architectural Design Studio V.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 433.

Typically Offered
Spring

ARCH 448 - Structural Systems in Architecture II

Credits: 4

Instruction in the quantitative analysis of structural systems and the forces they resist, proceeding from the design loads associated with building through the reactions of particular structural elements. Overview of material strengths, and other properties of specific structural systems. Instruction in structural system sizing, by hand calculation and computer analysis.

Note
Three hours of lecture, two hours laboratory per week. This course replaces ARCH 452 and ARCH 453.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 347 and admission to a professional program in the college.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ARCH 449 - Structural Systems in Architecture II

Credits: 3

Instruction in strength of materials focusing on the behavior of building materials under loading; their ability to resist deformation and failure. Instruction in sizing simple structural elements. For ARCH and IAPD students.

Note
Three hours lecture, two hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 348.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ARCH 452 - Structural Systems in Architecture III

Credits: 3

Instruction in the design of building structures as whole systems. Instruction in the principles of structural subsystem design; emphasis on the overall structural behavior and subsystems integrity required to achieve a variety of building forms. Instruction in strategies for the use of approximation in the manipulation of key quantitative properties of whole systems and major subsystems in building design.

Note
Three hours lecture, two hours workshop/test each week.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 449.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ARCH 453 - Structural Systems in Architecture IV

Credits: 3

Instruction in the design of building structures as whole systems; overall-to-specific systems behavior and manipulative design of major subsystems. Emphasis on the design of subsystems and subsystem components as they are affected by structural material. Instruction in specialized issues associated with the analysis and design of high rise and long-span building structure, including foundation, constructive, and economic factors which affect building design.

Note
Three hours lecture, two hours workshop/test each week.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 452.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ARCH 475 - Problems in Architectural Presentation

Credits: 1-18

Study of various methods of graphically representing architectural problems to develop professional office techniques.

Repeat for Credit
Y

Requisites
Prerequisite: Second-year standing and approval of instructor.

Typically Offered
Fall, Spring, Summer

ARCH 503 - Academic Internship Preparation

Credits: 1

Preparation for an academic internship in the field of architecture.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200 and ARCH 404.

Typically Offered
Fall, Spring, Summer

ARCH 505 - Academic Internship

Credits: 6

Off-campus work study program with an approved professional sponsor.

Note
Must be enrolled concurrently with ARCH 506, and each course must be successfully completed before credit is awarded in either.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 503, approval of the internship coordinator, and no grade lower than a C in an architectural design studio course.

Typically Offered
Fall, Spring, Summer

ARCH 506 - Academic Internship Seminar

Credits: 3

Seminar on practice-based topics in architecture.

Note
Must be enrolled concurrently with ARCH 505, and each course must be successfully completed before credit is awarded in either.

This course is letter-graded only.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 503 and no grade lower than a C in an architectural design studio course.

Typically Offered
Fall, Spring, Summer

ARCH 507 - Architectural Internship, Part C

Credits: 2

A continuation of the approved off-campus internship of ARCH 505 and ARCH 506. Preparation of internship journals, employer profiles, and a final internship analysis paper based on the entire 30-week internship experience.

Note
This course must be completed in order for internship to count as an equivalent of ARCH 606.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 505 and ARCH 506.

Typically Offered
Summer

K-State 8
Ethical Reasoning and Responsibility

ARCH 514 - Environmental Systems in Architecture II

Credits: 3

Instruction in criteria for selection and application of natural and mechanical environmental control systems in architecture. Focus on the integration of thermal, illumination, sanitary, movement, and acoustical systems within the building and the natural environment. Contemporary and developing approaches are explored.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites

Prerequisite: ARCH 248 or IARC 248 and enrollment in a professional program in the college.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ARCH 515 - Environmental Systems in Architecture III

Credits: 3

Criteria for selection and application of natural and mechanical environmental control systems in architecture. Focus on the integration of thermal, illumination, sanitary, movement, and acoustical systems with the building fabric and the natural environment. Contemporary and developing approaches are explored.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 413.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ARCH 565 - Problems in Architectural Design

Credits: 1-18

Study of specific design problems under the direct supervision of a member of the architecture faculty.

Repeat for Credit
Y

Requisites
Prerequisite: Approval of instructor.

Typically Offered
Summer

ARCH 605 - Architectural Design Studio V

Credits: 5

Design and development of an architectural project beyond schematic design.

Note
Twelve hours studio a week.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 404, ARCH 434, ARCH 448, ARCH 514, LAR 500 and no grade lower than a C in an architectural design studio course.

Typically Offered
Fall, Spring, Summer

ARCH 606 - Architectural Design Studio VI

Credits: 5

Design and development of architectural projects on topics proposed by faculty. On or off-campus studio. Department and College approval required for off-campus studios, whether in a domestic or international studies program or university.

Note
Twelve hours studio a week.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 404, ARCH 434, ARCH 448, ARCH 514, LAR 500, and no grade lower than a C in an architectural design studio course.

Typically Offered
Fall, Spring, Summer

ARCH 650 - Architectural Programming

Credits: 3

An introductory course surveying the basic philosophies and methodologies for architectural programming; emphasis on the comparative evaluation of different strategies and their integration within the process of design.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing or permission of the instructor.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

ARCH 654 - Study Abroad Orientation

Credits: 0-18

Preparation for participation in study abroad with a focus on specific information pertaining to the design professions and the analysis of the built and natural environment.

Repeat for Credit
N

Typically Offered
Fall, Spring

ARCH 700 - Topics in History of the Designed Environment

Credits: 3

Seminar on topics involving specific periods or subjects in the history of the built environment.

Repeat for Credit
Y

Requisites
Prerequisite: ARCH 350 or MS ARCH standing.

Typically Offered
Fall, Spring

ARCH 703 - Environmental Aesthetics

Credits: 3

Problems involving aesthetics in areas related to student's major field.

Note
Three hours a week.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing or permission of instructor.

Typically Offered
Fall, Spring

ARCH 704 - Topics in Environment and Behavior

Credits: 3

Seminar on topics in human behavior as it relates to physical environments.

Repeat for Credit
Y

Requisites
Prerequisite: ARCH 304 or IAPD 320 or LAR 320 or M. ARCH standing or junior standing if outside CAPD.

Typically Offered
Fall, Spring

ARCH 705 - Project Programming

Credits: 2

The development of a program for ARCH 707, Architectural Design VIII, under direction of a faculty member.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 606, or ARCH 505/ARCH 506, and approval of the faculty committee.

Typically Offered
Fall, Spring

ARCH 706 - Architectural Design Studio VII

Credits: 5

Integration of the physiological, psychological, and

sociological parameters in the design of environments. Analysis, programming, and planning problems, increased complexity of function and space definition systems. Relating environmental technology to total design.

Note
Twelve hours studio a week.

Repeat for Credit
N

Requisites
Prerequisite: Either ARCH 507 or ARCH 606; ARCH 434, ARCH 448, ARCH 515, and no grade lower than a C in any architectural design studio course.

Typically Offered
Fall, Spring

ARCH 707 - Architectural Design Studio VIII

Credits: 5

Development of the student's project programmed in ARCH 705, under the direction of a faculty committee. Project must demonstrate a high level of achievement in systematic and comprehensive thinking, application of resources, and communication of total process.

Note
Twelve hours studio a week.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 705, ARCH 706, and no grade lower than a C in an architectural design studio course.

Typically Offered
Fall, Spring

ARCH 711 - Topics in Architectural Design Methods

Credits: 3

Intensive review of selected design methodologies, including systematic and computer-based approaches to problem definition and project design; emphasis upon the comparative evaluation of problem-solving strategies within the architectural design process.

Repeat for Credit
Y

Requisites
Prerequisite: ARCH 403 or IAPD 435 or LAR 320 or MS ARCH standing.

Typically Offered
Fall, Spring

ARCH 715 - Topics in Architecture Seminar

Credits: 3

Seminars that investigate a wide range of topics central to the discipline of architecture.

Repeat for Credit
Y

Requisites
Prerequisite: ARCH 403 or permission of instructor.

Typically Offered
Fall, Spring

ARCH 716 - Topics in Environmental Systems in Architecture

Credits: 3

A concentrated study of a particular subject related to the environmental systems of the built environment.

Repeat for Credit
Y

Requisites
Prerequisite: ARCH 413 or MS ARCH standing.

Typically Offered
Fall, Spring

ARCH 720 - Environment and Behavior

Credits: 3

Investigates the relationship between human behavior and design of the physical environment. Includes identification of psychological, social, cultural concepts which influence and are influenced by the built environment. Emphasizes applying this knowledge in design.

Note
Three hour seminar per week.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 325 or equivalent or permission of instructor.

Typically Offered
Fall, Spring

ARCH 725 - Architecture Research Methods

Credits: 3

An introductory course surveying the basic philosophies and methodologies of science and research as they apply to the field of architecture.

Note
Special emphasis will be placed on those methods appropriate for investigating human response to the built environment.

Repeat for Credit
N

Typically Offered
Fall, Spring

ARCH 735 - Topics in Building Construction Systems in Architecture

Credits: 1-4

Advanced study of the relationship of conceptual and/or technological factors of building construction to architecture.

Repeat for Credit
Y

Requisites
Prerequisite: ARCH 434 or MS ARCH standing.

Typically Offered
Fall, Spring

ARCH 750 - Writing Intensive Architecture Seminar

Credits: 3

A writing intensive seminar shall be an Architecture Seminar where over half of the course grade is based on written assignments (including papers, assignments, quizzes and exams).

Repeat for Credit
Y

Requisites
Prerequisite: ENGL 200 and ARCH 403.

Typically Offered
Fall, Spring

ARCH 752 - Topics in Structural Systems in Architecture

Credits: 3

Study of the relationship of conceptual and/or technological factors of structure to architectural design.

Repeat for Credit
Y

Requisites
Prerequisite: ARCH 448 or MS ARCH standing.

Typically Offered
Fall, Spring

ARCH 753 - Foundations of Practice

Credits: 3

This course examines the foundational principles of architectural practice in the United States. It equips students with the essential knowledge and understanding of the instruments of service for delivering a building project from concept to realization and positions them to think critically about each step in the process.

Repeat for Credit
N

Typically Offered
Fall

ARCH 765 - Advanced Problems in Architecture

Credits: 1-18

Study of specific architectural problems under the direct supervision of a member of the architecture faculty.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ARCH 790 - Practicum

Credits: 1-18

Practical application of studies related to a student's area focus.

Note
For Master of Architecture and Master of Science in Architecture students. May be taken with departmental permission only.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ARCH 801 - Topics in History of the Designed Environment

Credits: 3

Seminar on topics involving specific periods or subjects in the history of the built environment.

Repeat for Credit
Y

Requisites
Prerequisite: ARCH 350.

Typically Offered
Fall, Spring

ARCH 803 - Environmental Aesthetics

Credits: 3

Problems involving aesthetics in areas related to student's major field.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ARCH 804 - Topics in Environment and Behavior

Credits: 3

Seminar on topics in human perceptions, reactions, and behavior as they relate to physical environments.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ARCH 805 - Comprehensive Design Preparation

Credits: 3

Scholarly and design-based research, intended to deeply inform architectural decision-making, culminating in a program for an architectural project to be undertaken in ARCH 808.

Repeat for Credit
Y

Requisites
Prerequisite: ENGL 200, ARCH 605, and ARCH 606.

Typically Offered
Fall

ARCH 809 - Architectural Design Communication

Credits: 3

Instruction in design communication with emphasis on concepts, principles, strategies and skills for effectively combining writing with images and other products of design; focuses on ideas, processes and proposals developed during the final year of architectural design studio.

Repeat for Credit

N

Requisites
Corequisite: ARCH 818.

Typically Offered
Spring

ARCH 811 - Topics in Architectural Design Methods

Credits: 3

Intensive review of selected design methodologies, including systematic and computer-based approaches to problem definition and project design; emphasis upon the comparative evaluation of problem-solving strategies within the architectural design process. May be repeated for credit with different topics.

Repeat for Credit
Y

Requisites
Prerequisite: ARCH 304.

Typically Offered
Fall, Spring

ARCH 815 - Topics in Architecture

Credits: 3

Seminar on topics in architecture with readings, class discussion, student presentations, research papers or projects.

Repeat for Credit
Y

Requisites
Prerequisite: ARCH 304.

Typically Offered
Fall, Spring

ARCH 816 - Topics in Environmental Systems in Architecture

Credits: 3

A concentrated study of a particular subject related to the environmental systems of the built environment.

Repeat for Credit
Y

Requisites
Prerequisite: ARCH 413.

Typically Offered
Fall, Spring

ARCH 817 - Architectural Design Studio VII

Credits: 5

Advanced design and development of architectural projects on topics proposed by faculty.

Note
Twelve hours studio a week.

Repeat for Credit
Y

Requisites
Prerequisite: ARCH 605, ARCH 606, and no grade lower than a C in an architectural design course.

Typically Offered
Fall

ARCH 818 - Architectural Design Studio VIII

Credits: 5

Advanced design and development of an architectural project using the program developed in ARCH 805. Students must demonstrate the ability to achieve a comprehensive, integrated design from site- to detail-scale.

Repeat for Credit
Y

Requisites
Prerequisite: ARCH 805, ARCH 817, and no grade lower than a C in an architectural design studio course.

Typically Offered
Spring

ARCH 820 - Environment and Behavior

Credits: 3

Investigates the relationship between human behavior and design of the physical environment. Includes identification of psychological, social, cultural factors which influence and are influenced by the built environment. Emphasizes applying this knowledge in design.

Note
Three hour seminar per week.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ARCH 830 - Advanced Architectural Studies

Credits: 1-18

Studies related to the area of focus of a M.S. Arch. student in the non-thesis option. Preparation of a non-thesis proposal and a non-thesis project which may include a design project, synthesis paper, portfolio of written work, series of case studies, or other project. May be taken by M. Arch. student with departmental permission only.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ARCH 835 - Topics in Building Construction Systems in Architecture

Credits: 1-4

Advanced study of the relationship of conceptual and/or technological factors of building construction to architecture.

Repeat for Credit
Y

Requisites
Prerequisite: ARCH 433.

Typically Offered
Fall, Spring

ARCH 852 - Topics in Structural Systems in Architecture II

Credits: 3

Study of the relationship of conceptual and/or technological factors of structure to architectural design.

Repeat for Credit
Y

Requisites
Prerequisite: ARCH 453.

Typically Offered
Fall, Spring

ARCH 853 - Professional Practice: Professional Responsibility

Credits: 1

Interdisciplinary course addresses the connections between allied design professions and the larger community. It helps students to understand and appreciate their professional legal and ethical responsibilities.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ARCH 854 - Professional Practice: Office Practices

Credits: 1

Interdisciplinary course addresses practice-based issues concerning professional relationships in the design and delivery process, management of projects, communication practices, and fiscal concerns.

Repeat for Credit
N

Typically Offered
Fall, Spring

ARCH 855 - Professional Practice: Discipline-Specific Topics

Credits: 1

Covers discipline-specific concerns, focusing on issues specific to architecture, interior architecture and product design, landscape architecture or regional and community planning.

Repeat for Credit
N

Typically Offered
Fall, Spring

ARCH 865 - Advanced Problems in Architectural Design

Credits: 0-18

Study of specific architectural design problems under the direct supervision of a member of the architecture faculty.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ARCH 899 - Thesis

Credits: 1-18

Study in architecture and related fields leading to thesis.

Repeat for Credit
Y

Typically Offered
Other

ARE 010 - ARE New Student 1st Year Workshop 1

Credits: 0

Familiarize entering Architectural Engineering students with the nature of the architectural, engineering, and construction industry with an emphasis on terminology and professionalism. Information related to architectural engineering, department policies, student organizations, department faculty, and career opportunities will be introduced.

Repeat for Credit
N

Typically Offered
Fall

ARE 012 - ARE New Student 1st Year Workshop 2

Credits: 0

Continued familiarization with the architectural, engineering, and construction industry with a stronger emphasis on terminology and professionalism. Additional Information related to architectural engineering, department policies, student organizations, department faculty, and career opportunities will be presented.

Note
One hour recitation per month

Repeat for Credit
N

Typically Offered
Spring

ARE 020 - Architectural Engineering Seminar

Credits: 0

Presentation of professional problems and practices by students, faculty, and professionals associated with the career of architectural engineering.

Note
One hour lecture a month.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ARE 100 - Architectural Engineering Orientation

Credits: 2

Introduction to architectural engineering. Promotion of interaction and connection with the department as well as a network of academic and professional networks through the

use of learning communities. Familiarize entering students with the nature of the architectural, engineering, and construction industry with an emphasis on terminology and professionalism.

Note
Two hours lecture a week.

Required for all new students during their first year in the program.

Repeat for Credit
N

Typically Offered
Fall, Spring

ARE 295 - Introduction to Building Systems

Credits: 3

An introduction to building systems including: structural, electrical, mechanical, and plumbing. An emphasis will be made on the importance of these systems to the success of building function and operation. The course will not only expose the students to each system but the criticalness of integration between the systems as well as the architecture and construction of the facility.

Note
3 hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore Standing.

Typically Offered
Fall, Spring

ARE 310 - Introduction to AutoCAD

Credits: 1

An introduction to the basics of AutoCAD.

Note
One hour lecture and three hours lab a week or equivalent.

Repeat for Credit
N

Requisites
Prerequisite: CNS 200, and CNS 321.

Typically Offered
Fall, Spring

ARE 312 - Introduction to Building Information Modeling

Credits: 1

Introduction to building information modeling as a technology tool related to the engineering and construction industry.

Note
Three hours lab a week.

Repeat for Credit
N

Requisites
Corequisite: ARE 310.

Typically Offered
Fall, Spring

ARE 421 - Plan Reading & Systems Communications

Credits: 3

The integration of architectural, structural, mechanical, electrical and plumbing building systems, the impact of codes/standards on design, plan reading, and drawing creation.

Note
6 hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 321

Typically Offered
Fall, Spring

ARE 460 - ARE Professional Practice

Credits: 3

General business, management and contractual procedures in professional practice. Personal development of skills needed to enter and be accepted in industry today.

Note
3 hours recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: ARE 295, COMM 106, and ENGL 200. Architectural Engineering majors only.

Typically Offered
On sufficient demand

ARE 497 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research projects.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ARE 499 - Honors Research in Architectural Engineering

Credits: 1-18

Individual research problem selected with approval of faculty advisor. Open to students in the college of engineering honors program. A report is presented orally and in writing during the last semester.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ARE 521 - Computer Aided Architectural Engineering

Credits: 2

An introduction to the use of computer software for the design and integration of building systems. The course is intended to complement and enhance the content of the concurrent system courses (Mechanical II, Electrical II, and Structures II). The computer software used will represent the standard practices of the building construction industry.

Note
4 hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: (ARE 551 and ARE 552) or ARE 553.

Typically Offered
Fall, Spring

ARE 537 - Acoustic Systems

Credits: 2

Hearing and the ear, sound generation, acoustical correction, noise reduction, and sound transmission all as integral parts of architectural design.

Note
Two hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 113 or PHYS 213.

Typically Offered
Fall, Spring

ARE 551 - Electrical Systems I

Credits: 3

An introduction and study of the basic concepts and components of building electrical distribution systems, including circuit design.

Note
3 hours recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 214 and ARE 295. Architectural Engineering Majors only.

Typically Offered
Fall, Spring

ARE 552 - Mechanical Systems I

Credits: 3

An introduction to building HVAC and plumbing system terminology, principles, and practices of design and layout specifically for applications of human comfort and safety.

Note
3 hours recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: ARE 295, Prerequisite or Concurrent: ME 513. Architectural Engineering Majors only.

Typically Offered
Fall, Spring

ARE 553 - Structural Systems I

Credits: 3

Introduction to design of steel structures. Theoretical and practical bases for proportioning members, their connections, and layout specifically for applications of buildings.

Note
3 hours recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: CE 533 and prerequisite or concurrent CE 537. Architectural Engineering Majors only.

Typically Offered
Fall, Spring

ARE 561 - Electrical Systems II

Credits: 3

The study and application of luminaires, lighting systems design and control, circuit and utilization component design, and design of building electrical systems distribution and service equipment.

Note
3 hours recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: ARE 551

Typically Offered
Fall, Spring

ARE 562 - Mechanical Systems II

Credits: 3

The study of building HVAC system selection and application including load calculations, space coordination, system design and layout, and scheduling of equipment and materials.

Note
3 hours recitation per week

Repeat for Credit
N

Requisites
Prerequisite: ARE 552

Typically Offered
Fall, Spring

ARE 563 - Structural Systems II

Credits: 3

Introduction to design of reinforced concrete structures. Theoretical and practical bases for proportioning members, layout specifically for applications of buildings and characteristic as a construction material.

Note
3 hours recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: ARE 553, CHM 210, and CE 537.

Typically Offered
Fall, Spring

ARE 571 - Systems Integration and Design

Credits: 3

An analysis of structural, mechanical, electrical and plumbing systems design processes, budgeting and constructability that supports the Conceptual Design and Schematic Design phases of building projects.

Note
2 hours recitation & 4 hours lab per week.

Repeat for Credit
N

Requisites
Prerequisites: ARE 421, ARE 521, ARE 561, ARE 562, and ARE 563.

Typically Offered
Fall, Spring

ARE 620 - Problems in Architectural Engineering

Credits: 1-18

A study of specific design problems under the direct supervision of a member of the architectural engineering faculty.

Note
Approval of the department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ARE 630 - Introduction to LEED

Credits: 0-18

Introduction to green building design and construction principles and practices based on the Leadership in Energy and Environmental Design (LEED) Green Building Rating System of the United States Green Building Council (USGBC).

Note
One or two hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: Professional program standing.

Typically Offered
On sufficient demand

ARE 671 - ARE Capstone

Credits: 4

In a studio fashion, student working individually or as part of a small team will prepare and present a design project of appropriate scope and complexity with emphasis on structural or mechanical/electrical/plumbing building systems.

Note
2 hours recitation & 6 hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: ARE 571

Typically Offered
Fall, Spring

ARE 711 - Building Energy Codes and Standards

Credits: 2

Study of the background, importance, impact, and application of the energy codes to the mechanical and electrical systems design process.

Note
Two hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ARE 562.

Typically Offered
Spring

ARE 712 - Energy Modeling Lab

Credits: 1

Study of current building energy sources and trends, basic engineering economics applied to building energy use, energy calculations for building systems, and software-based whole building energy simulation using eQUEST.

Note
Two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ARE 562.

Typically Offered
Spring

ARE 715 - Problems in Architectural Engineering

Credits: 0-18

Participation in student design competition teams under the direct supervision of a member of the architectural engineering faculty.

Note
Approval of the department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ARE 720 - Topics in Architectural Engineering

Credits: 1-18

A study of specific design problems in architectural engineering.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

ARE 722 - Building Loads and Computer Aided Structural Analysis and Design

Credits: 3

Fundamentals of building structural systems and design with the emphasis on building loads and load paths. Review of International Building Code's structural loading requirements, applications, and determination of design loads by ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures. Introduction of building design and analysis software basics. Students will learn how to generate building structural models, and conduct analysis, design, and simulation using software applications.

Repeat for Credit
N

Requisites
Prerequisite or concurrent: ARE 563.

Typically Offered
Fall

ARE 723 - Timber Structures

Credits: 3

Analysis and design of timber structures including dimension lumber, glu-lam members, and engineered wood products.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CE 537.

Typically Offered
Spring

ARE 724 - Advanced Steel Design

Credits: 3

Structural design computations for beams, girders, columns and beam-columns. Design of connections (bolted & welded). Structural working drawings (plan, elevation and connection details). Overview of failure mechanisms and design procedures for plate girders. AISC requirements for prevention of various failure mechanisms.

Note
Three hours recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: ARE 553 or CE 542.

Typically Offered
Fall

ARE 725 - Cold-Formed Steel Design

Credits: 3

Principles of behavior, design, fabrication, and construction of cold-formed steel structures.

Note
Two or three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ARE 553 or CE 542.

Typically Offered
On sufficient demand

ARE 726 - Masonry Structural Design

Credits: 3

Introduction to masonry materials, specifications, testing and construction methods. The design of unreinforced and reinforced masonry structures according to applicable building codes.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ARE 563 or CE 544.

Typically Offered
Fall

ARE 729 - Building Seismic Design

Credits: 3

Continuation of ARE 553 and ARE 563 with special emphasis on seismic design as applied to a complete structure.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ARE 553 or CE 542 and prerequisite or concurrent ARE 563 and ARE 722.

Typically Offered
On sufficient demand

ARE 731 - Advanced Lighting Design

Credits: 3

Design and application of lighting systems for commercial buildings, using current industry practices and computer-assisted analysis.

Note
Two hours recitation and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ARE 561.

Typically Offered
Spring

ARE 733 - Advanced Mechanical Hydronic Systems Design

Credits: 3

Design and application of mechanical systems for buildings, focusing on hydronic and steam systems, expanding on the material and topics presented in prior HVAC courses.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ARE 562.

Typically Offered
Spring

ARE 734 - Advanced Mechanical Air Systems Design

Credits: 3

Design and application of mechanical systems for buildings, focusing on air systems, expanding on the material and topics presented in prior HVAC courses.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ARE 562.

Typically Offered
Fall, Spring

ARE 735 - Advanced Electrical Systems Design

Credits: 3

Design and application of various electrical distribution system for commercial buildings. The course uses the National Electrical Code in conjunction with current industry practices.

Note
Two hours recitation and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ARE 561.

Typically Offered
Fall, Spring

ARE 736 - Advanced Plumbing Design

Credits: 3

Design and application of domestic water and waste systems, storm water systems, fuel gas systems, medical gas systems and fire protections systems.

Note
Two hours recitation and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ARE 552.

Typically Offered
Fall

ARE 741 - Building Communication Systems

Credits: 3

Detailed design and analysis of special electrical systems for buildings including, fire alarm, and communication systems.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ARE 561.

Typically Offered
Fall

ARE 890 - Problems in Architectural Engineering

Credits: 0-18

A study of a specific problem under the direct supervision of a member of the architectural engineering faculty.

Note
Approval of Major Professor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ARE 898 - Master's Report

Credits: 1-18

Topics selected with approval of major professor and department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ARE 899 - Master's Thesis

Credits: 1-18

Topics selected with approval of major professor and department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 102 - Ceramics for Non-majors

Credits: 3

A foundational survey in ceramic processes covering sculptural and vessel-based making as well as nontraditional practices in ceramic art. Students learn the basic origins of clay, its physical properties, and working characteristics. Surface expression is emphasized through the use of colored slips and glazes and atypical applications.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

ART 103 - Jewelry Design and Processes for Non-majors

Credits: 3

Students without a background in art will be introduced to basic forming and construction techniques and design principles for jewelry and small-scale metal objects.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

ART 104 - Digital Photography for Non-majors

Credits: 3

Introduction to digital photography including the use of DSLR camera, Adobe Lightroom, and Adobe Photoshop. This course is designed for non-Majors

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core

6 Arts and Humanities

K-State 8
Aesthetic Interpretation

ART 105 - AandD: Career and Creative Industry Seminar

Credits: 1

Introduction to art concentrations and professions.

Note
Required of all art majors and must be completed prior to the concentrations admission review procedure.

Repeat for Credit
N

Typically Offered
Fall, Spring

ART 106 - Art Appreciation

Credits: 3

Introduction for non-art majors to basic elements (line, color, form, etc.) and principles (balance, repetition, proportion, etc.) of composition and explore some of the purposes (political, spiritual, philosophical, etc.) of art. Explore the relationship of art to historical contexts and examine the concept of style.

Repeat for Credit
N

Typically Offered
Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

ART 108 - Introduction to Modern and Contemporary Art for Non-Majors

Credits: 3

A beginner's guide to understanding and appreciating movements in modern art from Realism, Impressionism, Post-Impressionism, Fauvism, Cubism, De Stijl, Constructivism, Dada, and Surrealism to Abstract Expressionism, Pop Art, Minimalism, and Conceptual Art, as well as art from the postmodern period – Neo-Expressionism, Neo-Abstraction, Neo-Conceptualism, Grafitti Art, etc. – to the present.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ART 111 - Photography, Civil Rights, Art and the Environment

Credits: 3

Surveys the role(s) photography plays in society focusing on the US civil rights movement and built/natural environment. Examines examples of journalistic and artistic practices in the medium of photography that both look back, question and critique the present with regard to these topics.

Note
Intended for all K-State students in all colleges. Humanities core. No prerequisites..

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

ART 112 - Professional Practices in the Arts

Credits: 3

Focus on business best practices of the creative professions, photography, design, professional practices in museums, auction houses, artist and design studios. Best practices surveyed include conservation, artists contracts, licensing, taxes, art insurance, copyright law, arts management, public art law, artist estates and independent contractor or freelancer health care, as well as grants and grant writing. Career paths and further study in the arts are also explored. This course serves those who want to work in the arts as well as creative professionals or law students who wish to

enter arts law.

Note
Intended for all students at K-state or ArtSci, as gen ed. Possibly part of Museum Studies certificate.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

ART 174 - A and D: Mixed Media Process and Exploration Lab

Credits: 3

A studio-based experience designed for students interested in exploring visual arts and design through practical, experimental methods. Focusing on various techniques, materials, and inter-university collaborations, offering students an opportunity to discover their artistic interests while connecting with the academic and creative community

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

ART 180 - AandD: Color, Light, and Perception Lab

Credits: 3

Explore color theory, light phenomena, and visual perception in 'AandD: Color, Light, and Perception Lab.' Develop your creative skills, manipulate light and materials, and analyze visual information. Ideal for all majors seeking enhanced visual literacy and artistic insight.

Note
Six hours lab.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

ART 190 - Drawing I

Credits: 3

Fundamental principles of drawing skills based on observation through the introduction of basic materials and techniques.

Note
Six hours lab.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

ART 194 - A and D: Community and the Environment Experience

Credits: 3

A foundational art experience that delves into the crossroads of art, design, and social and environmental matters. Students will harness diverse media to express their views on topics like community identity, cultural diversity, environmental justice, and urban planning. Through collaborative projects, including research and fieldwork, students engage with community partners, making this course relevant for all majors interested in applying visual literacy and artistic sensibility to real-world issues.

Repeat for Credit
N

Typically Offered
Fall or Spring

K-State Core
6 Arts and Humanities

ART 195 - Survey of Western Art History I

Credits: 3

Historical development of art from pre-history through the Middle Ages.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

ART 196 - Survey of Western Art History II

Credits: 3

Historical development of art from the Renaissance to the nineteenth century.

Repeat for Credit
N

Typically Offered
Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

ART 197 - Survey of Non-Western Art History

Credits: 3

An introductory survey of the art of Africa, Asia, Oceania, and the Americas from prehistory to the present.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ART 200 - AandD: Visual Representation and Fabrication

Credits: 3

Explore the foundations of 2D and 3D design in 'AandD: Visual Representation and Fabrication,' developing skills in creating, analyzing, and manipulating visual forms across different media, including drawing, design, and 3D modeling. Fosters visual literacy, creativity, and an understanding of scale, composition, and cultural contexts, making it suitable for students of all majors seeking to enhance their creative sensibility.

Note
Six hours lab.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

ART 202 - Art and Insects

Credits: 3

Provides a framework for examining arts and insects in which students consider evolution, genetics, behavior, and biodiversity, while also learning aesthetic interpretation, analysis of color and shape, perception, and the role of insect representations in the arts and humanities.

Repeat for Credit
N

Typically Offered
Spring

Cross-listed

ENTOM 202 - Art and Insects

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Natural and Physical Sciences

ART 205 - Portfolio Review

Credits: 1

The preparation and display of a student's own creative work, upon completion of the Department of Art core. The concentration admission procedure occurs after student selection of an area of concentration within the BFA art major format.

Repeat for Credit
Y

Requisites
Prerequisite or Corequisite: ART 105, ART 194, ART 180, ART 174, ART 200

Typically Offered
Fall, Spring

ART 285 - Visual Communication Design Fundamentals

Credits: 3

An introduction to Visual Communication Design, focusing on design principles, concept development, and basic tools used in the profession.

Note
Successful completion of Visual Communication Area Portfolio Review - ART 205.required

Repeat for Credit
N

Requisites
Pre-Req: ART 205.

Typically Offered
Fall

ART 290 - Visual Communication Design I: Typography and Design Principles

Credits: 3

Studio design experience introducing the formal and semiotic aspects of typographic systems as applied in design. Students implement the elements and principles of visual language to communicate through typography. Topics include characteristics, classifications, tools, and methods for communicating with typography as content, form, and image. Concepts, skills, process activities, and methods introduced are applicable across all areas of design.

Note
Successful completion of Visual Communication Area Portfolio Review - ART 205.required

Repeat for Credit
N

Requisites
Prerequisite: ART 205

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

ART 291 - Introduction to Drawing

Credits: 3

Fundamental principles of drawing skills based on observation through the introduction of basic materials and techniques.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

ART 300 - Special Studies in Art

Credits: 1-3

Specialized workshops or seminars conducted in studio, art therapy, art education, or art history.

Repeat for Credit

Y

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 301 - Human Form and Composition

Credits: 3

Building stylization and expressive image making of the human form with experimental methods: use of color, mono-print, mixed media. A connected and sustained studio time available during intersession only, providing students a working rhythm without interruption from other course work.

Note
Six hours lab.

Repeat for Credit
Y

Requisites
Prerequisite: 180, ART 190.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 303 - Visual Communication Design Techniques I

Credits: 3

A hands-on experience intended to introduce non-majors to the visual and critical thinking skills that Visual Communication Designers use when creating print-based communication using text and image.

Repeat for Credit
N

Requisites
Prerequisite: ART 174 OR ART 180 OR ID 225 OR ENVD 201 OR permission of instructor

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 304 - Digital Illustration

Credits: 3

Introductory survey of digital drawing and illustration techniques whereby students are introduced to digital illustration software, illustration generes, methods, and materials.

Repeat for Credit
N

Typically Offered
Summer

K-State 8
Aesthetic Interpretation

ART 305 - Introduction to Museum Studies

Credits: 3

Fundamentals of museum work including specific museum functions, role of professional personnel, and proper care and handling of art works.

Repeat for Credit
N

Typically Offered
Intersession

ART 310 - Visual Communication Design II: Methods and Processes

Credits: 3

Studio design course focused on processes and methodologies applicable to understanding and solving visual communication design problems.

Repeat for Credit
N

Requisites
Prerequisite: ART 290.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 311 - Drawing: Expanded Media

Credits: 3

Extension of Introduction of Drawing, observational drawing enhanced by composition, expanded materials and techniques.

Note
Six hours lab.

Repeat for Credit
N

Requisites
Prerequisite: ART 190 or ART 291 or IDSN 225 or ENVD 201

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 313 - Fundamentals of Fiberart and Material Studies.

Credits: 3

Introduction to fiberart processes and innovative material as an art form in methods such as small scale tapestry weaving; fabric dye techniques; dye discharge techniques; fabric pigment applications of painting, stamping, printing; and non-loom basketry coiling or felting.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 315 - Basic 3D Modeling & Printing

Credits: 3

Explores the potential and limitation of 3D Printing through a build-intensive design project. Projects use industry standard 3D hardware and software.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ART 320 - Water Media

Credits: 3

Introduction to painting with water-based media through a variety of techniques. Emphasis is placed on learning transparent watercolor.

Note
Six hours studio.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 325 - Figure Drawing

Credits: 3

Sustained drawings of the human figure using a variety of media; introduction to human anatomy used by artists.

Note
Six hours lab.

Repeat for Credit
N

Requisites
Prerequisite: ART 190 or ART 291 or IDSN 225 or ENVD 201

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 330 - Digital Techniques in Visual Art

Credits: 3

Survey of the most frequently used programs in the studio arts and equipment necessary for successful navigation on the digital arena.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 331 - Introduction to Digital and Expanded Media

Credits: 3

Explores digital and expanded media and technology for artistic production including use of computers for graphics, sound, electronics, time-based art practice, installation, and spacial practices, interactive/performance, and programming. Students will apply these skills by relating them to contemporary issues and ideas within the expanded field of artistic production.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 335 - Introduction to Printmaking Techniques

Credits: 3

A foundational survey of printmaking techniques for image development and creative expression. Individual and collaborative print based studio work in intaglio (etching), lithography, relief (woodcut), stencil (screen print), digital, or monoprint printmaking processes. Emphasis on exploration and experimentation through the handmade print and the graphic aesthetic.

Note
Six hours lab.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 340 - Introduction to Sculpture

Credits: 3

An introduction to sculptural practices and expanded media, such as fundamental techniques and concepts in modeling and construction of three-dimensional forms, woodworking, casting, and installation.

Note
Six hours lab.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ART 345 - Introduction to Oil Painting

Credits: 3

Technical aspects of oil painting materials, including preparation of grounds and use of limited color palettes.

Note
Six hours studio.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 350 - Drawing III

Credits: 3

Continuation of Drawing II, emphasizing exploration in mixed media.

Note
Six hours lab. May be taken for two semesters.

Repeat for Credit
N

Requisites
Prerequisite: ART 325.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 355 - Introduction to 3D Modeling for Jewelry, Ceramics and Design

Credits: 3

Techniques in the design of 3D objects with an emphasis on jewelry and ceramics employing various media.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ART 360 - Introduction to Wheel Thrown Ceramics

Credits: 3

Introduction to wheel thrown ceramics through use of the pottery wheel. **This course is designed for students majoring in other departments as well as art majors.**

Note
6 hour studio

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 365 - Introduction to the Ceramics Spectrum

Credits: 3

Introduces the spectrum of ceramics processes and techniques including hand building, slip casting, traditional glaze applications, and image transfer techniques.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ART 370 - Introduction to Metals and Jewelry

Credits: 3

Students will be introduced to basic forming and construction techniques and design processes for jewelry and small-scale metal objects.

Note
Six hours lab.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 380 - Introduction to Sound Art

Credits: 3

Includes digital, electronic, environmental, and acoustic sound in the visual arts context. Sound as component of a studio practice; fundamentals of recording, digital sound editing, electronics, time-based structures, and innovative presentation methods.

Repeat for Credit
N

Typically Offered
Fall or Spring

K-State 8
Aesthetic Interpretation

ART 390 - Design for Digital Media I

Credits: 3

Examines the methods and processes of designing interactive digital interfaces and products. Explores basic html and css, iOS design guidelines, digital typography, usability research, testing, and presentation of findings.

Repeat for Credit
N

Requisites
Prerequisite: ART 290 or permission.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 395 - Introduction to Digital Photography

Credits: 3

Understanding of Photography as an art form. DSLR operation, composition and Photoshop, historical perspectives and contemporary photography as art practice. Cameras can be rented.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 399 - Honors Seminar in Art

Credits: 3

Selected topics in art.

Repeat for Credit
N

Requisites
Prerequisite: For students in the honors program only.

Typically Offered
Other

ART 400 - Visual Communication Design III: Storytelling in Design

Credits: 3

Organize complex systems of text and image material. May address photographic, sequential, or time-based media.

Repeat for Credit
N

Requisites
Prerequisite: ART 290

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 404 - Minor in Art - Capstone

Credits: 0

Students enroll in tis during their final semseter as an art minor

Note
Taken in conjunction with the last three credit hours in the 18 hour minor in Art.

Repeat for Credit
Y

Requisites
Prerequisite: 15 credit hours of Art that fulfills the Art minor.

Corequisite: Final 3 credit hours of Art for the Art minor.

Typically Offered
Fall, Spring

ART 405 - A and D: Undergraduate Research Studio

Credits: 3

Delves into contemporary art, exploring it as a form of research and cultivating critical thinking skills. Students will analyze individual artists and art movements in the context of contemporary art theory, all while gaining insights into professional practice and development strategies. Combines readings, lectures, discussions, and hands-on studio sessions, complemented by online resources for staying updated on the latest developments in the field

Repeat for Credit
Y

Requisites
Corequisite: ART 205

Typically Offered
Fall, Spring

ART 407 - Visual Communication Design Topics

Credits: 1-3

Specialized Visual Communication Design course on varying topics.

Repeat for Credit
Y

Requisites
Prerequisites: ART 303 or ART 290 or instructor permission

Typically Offered
Fall, Spring, Summer

ART 410 - BFA Exhibition or Portfolio Presentation

Credits: 2

Course builds an awareness of professional practices and emphasizes the production and exhibition of a final portfolio of the student's art work. Development of evaluative skills involved in the resolution and presentation of a body of individual work.

Note
Students must take their final 3 credits in their concentration during the same semester as ART 410.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ART 415 - Undergraduate Art Studio Assistant in Faculty Research

Credits: 1-3

Students will assist faculty with creative research. Students will gain invaluable firsthand skills and insight of professional art practices. Research activities include but are not limited to production of artwork, preparation of art making materials, exhibition and curatorial research, and professional practice.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 420 - Visual Communication Design IV: Design and Context

Credits: 3

Explores issues related to the creation of visual design systems in the media and contexts within which they may be deployed.

Repeat for Credit
N

Requisites
Prerequisite: ART 310 and ART 400.

Typically Offered
Spring

ART 430 - Independent Study-Ceramics

Credits: 1-3

Hands-on experience in studio workflow and project management.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 435 - Independent Study-Crafts

Credits: 1-5

Work in crafts after competency has been achieved. Personal development is emphasized.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

ART 440 - Independent Study-Drawing

Credits: 1-5

Work in drawing after competency has been achieved. Personal development is emphasized.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 445 - Independent Study-Graphic Design

Credits: 1-5

Work in graphic design after competency has been achieved. Personal development is emphasized.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 450 - Independent Study-Metalsmithing

Credits: 1-5

Work in metalsmithing and jewelry after competency has been achieved. Personal development is emphasized.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 455 - Independent Study-Painting

Credits: 1-5

Work in painting after competency has been achieved. Personal development is emphasized.

Note
Permission of instructor and painting area head required.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 460 - Independent Study-Printmaking

Credits: 1-5

Work in printmaking after competency has been achieved. Personal development is emphasized.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 470 - Independent Study-Water Color

Credits: 1-5

Work in water color after competency has been achieved. Personal development is emphasized.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 475 - Independent Study in Photography

Credits: 1-3

Advanced course in photography with an emphasis on developing personal expression using photographic media, under the mentorship of the instructor.

Note
Six hours lab.

Repeat for Credit
Y

Requisites
Prerequisite: ART 180 or instructor consent.

Typically Offered
Fall, Spring

ART 480 - Independent Study/Research Computer Art and Design

Credits: 1-5

This course is intended to provide students an opportunity to focus on a specific visual project/problem that will be solved using computers to focus on as the primary tool/medium.

Repeat for Credit
Y

Requisites
Prerequisite: ART 400. Corequisite: ART 575.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ART 503 - Visual Communication Design Techniques II

Credits: 3

Develops an intermediate level practical understanding of the issues that Visual Communication designers face when they seek to combine words, ideas, and images into a more meaningful whole. Students will be exploring how the manipulation of the arrangement of text and image can effect visual organization, interest, and meaning. Focuses on visual conception and composition rather than software application, and is not Intended for students majoring in Visual Communication Design.

Note
Not Intended for students majoring in Visual Communication Design.

Repeat for Credit
N

Requisites
Prerequisite: ART 303 or permission of instructor

Typically Offered
Spring, Summer

ART 505 - A and D: Senior Research Studio

Credits: 3

An intensive experience preparing Art Majors for diverse career opportunities post-graduation. Focuses on aligning personal career goals and artistic strengths with contemporary society through seminars, studio work, and on-line resources.

Repeat for Credit
N

Requisites
Prerequisite: ART405

Typically Offered
Fall or Spring

ART 510 - Advanced Techniques in Jewelry and Metal Design

Credits: 3

Introduction and exploration of advanced techniques in jewelry and metal design, such as chasing, stone setting, enameling, various metal forming, and direct casting of 3d printed resin models.

Repeat for Credit
N

Requisites
Prerequisite: ART 370 or ART 103.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 523 - Digital and Expanded Media Special Topics

Credits: 3

Specialized studio art experience exploring technology and experimental media in the context of contemporary fine art production. Topics may include community art practice, systems art, ecology-based art, interactive media, code-based art and locative media.

Repeat for Credit
Y

Requisites
Prerequisite: ART 331 or permission of instructor.

Typically Offered
Fall, Spring

ART 529 - Color Printmaking Workshop: Creative Process and Investigation

Credits: 3

Individual and collaborative studio work in intaglio (etching), lithography, relief printing (woodcut), screen printing, or monoprint printmaking processes. Color theory, experimental and practical techniques provide experience in multicolor and intermedia graphic production. Emphasis on multi-color intermedia print development through creative process and material investigation.

Repeat for Credit
Y

Requisites
Prerequisite: ART 335.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 530 - Color Printmaking Workshop: Experimental Techniques and Vision

Credits: 3

Individual and collaborative studio work in intaglio (etching), lithography, relief printing (woodcut), screen printing, or monoprint printmaking processes. Emphasis on multi-color intermedia print development through experimental techniques and artistic vision.

Note
May be taken for 12 credit hours maximum.

Repeat for Credit
Y

Requisites
Prerequisite: ART 335.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 531 - Ceramic Sculpture Studio

Credits: 3

Sculptural ideas and methods in ceramics are explored through a variety of hand-building techniques. This course is designed for students majoring in other departments as well as art majors.

Note
Six-hour studio

Repeat for Credit
Y

Requisites
Prerequisite: ART 365

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

ART 545 - Twentieth Century Art History I: Post-Impressionism to Cubism

Credits: 3

Origins and development of twentieth century western art from 1880 to 1914.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Historical Perspectives

ART 550 - Twentieth Century Art History II: Dada to Surrealism

Credits: 3

Origins and development of twentieth century western art from 1914 to 1950.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Historical Perspectives

ART 560 - Advanced Independent Study

Credits: 1-3

Designed for advanced-level art students seeking to explore and develop their artistic skills in a self-guided manner. With instructor permission students will have the flexibility to choose their preferred medium, materials, making it a highly personalized learning experience reserved for students who have demonstrated consistent and substantial motivation in independent, student-lead research.

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 561 - Painting Theme and Variation

Credits: 3

Painting, with emphasis on subject and concept as the catalyst for development. Painting's dialogue will be explored through variations on theme, content, and subject in both historical and contemporary contexts.

Note
Six hour studio

Repeat for Credit
Y

Requisites
Junior or Senior standing preferred

Typically Offered
Fall

ART 563 - Topics in Digital Photography

Credits: 3

An intermediate level exploration of digital photography, students continue to develop their understanding of DSLR camera and software-based techniques to produce artwork. Students work on practical projects using digital imaging technologies such as DSLR capture, scanning, and professional inkjet printing, and research the use of such technologies by contemporary artists.

Note
Required Hardware: Laptop computer (not tablet) capable of running the current desktop version of Adobe CC Creative Cloud Software; Required Software: Adobe Creative Cloud subscription. Cameras can be rented from the Art Department.

Repeat for Credit
Y

Requisites
Prerequisite: ART 395 or permission of instructor

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ART 565 - Wheel Thrown Ceramics Studio

Credits: 3

Elements of intermediate functional ceramics and object design are explored with the pottery wheel, and intended for students majoring in other departments as well as art majors.

Repeat for Credit
Y

Requisites
Prerequisite: ART 365 or ART 102

Typically Offered
Fall

ART 568 - Topics in Analog Photography

Credits: 3

An intermediate level exploration of photography, students continue to develop their analog photographic processes such as film developing, darkroom printing, and several historic photographic processes. Students work on practical projects using medium and large format film cameras, professional studio lighting equipment, and research the use of such technologies and processes by contemporary artists.

Note
Required Hardware: Laptop computer (not tablet) capable of running the current desktop version of Adobe CC Creative Cloud Software; Required Software: Adobe Creative Cloud subscription. Cameras can be rented from the Art Department.

Repeat for Credit
Y

Requisites
Prerequisite: ART 395 or permission of instructor

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ART 570 - Painting Materials Application

Credits: 3

Painting's dialogue will be explored through conventional and experimental materials and process in both historical and contemporary contexts. Emphasis on materials and process as synergists for subject, representation and content.

Note
Six hours studio.

Repeat for Credit
Y

Requisites
Prerequisite: Junior or Senior standing preferred

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

ART 572 - Drawing Methods-Contemporary Approaches

Credits: 3

Contemporary approaches to drawing.

Repeat for Credit
N

Requisites
Requisites ART 311 or ART 325

Typically Offered
Fall

ART 575 - Web Art

Credits: 3

Introduction to interactive web and network-based artistic practice. Topics covered: network art, interactive art, locative media, html, and code-based art. Explores the history of web and network-based art practice.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ART 576 - Visual Communication Design Capstone I: Research

Credits: 3

Development of a research trajectory to culminate in the planning and execution of the capstone project in the Spring semester.

Repeat for Credit
N

Requisites
Prerequisite: ART 310, ART 400, ART 420.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

ART 577 - Matrix Studio and Business Practices

Credits: 3

Students are selected by portfolio review, design projects are completed to client specifications. Professional design management, ethics, setting up a business, client/designer relationships, and contractual options, billing practices, and operating procedures will be covered.

Note
Six hours lab.

Repeat for Credit
Y

Requisites
Prerequisite: ART 400 and must be a major.

Typically Offered
Fall, Spring

ART 580 - Visual Communication Design Capstone II: Project

Credits: 3

Conduct research, planning, and execution of a capstone project in visual communication design.

Repeat for Credit
Y

Requisites
Prerequisite: ART 420, ART 576.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 582 - Internships in Visual Art & Design

Credits: 0-3

Emphasis on problem solving and related skills in visual art, art history, and graphic design in a professional setting.

Note
Instructor consent

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 585 - Visual Communication Design BFA Portfolio and Professional Practices

Credits: 2

Develops awareness of professional practices and helps prepare the students for professional life after graduation. Requires a final design portfolio and public presentation and/or exhibit.

Note
Must be taken simultaneously with ART 580. Students must take their final 3 credits in their concentration during the same semester as ART 585.

Repeat for Credit
N

Requisites
Prerequisite: ART 576; Corequisite: ART 580

Typically Offered
Spring

ART 590 - Design for Digital Media II

Credits: 3

Continues the exploration of designing for dynamic media

including developing competencies in the areas of visual narrative, rhythm, space, animation, sound and video.

Repeat for Credit
N

Requisites
Prerequisite: ART 390

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 599 - Drawing Methods – Thematic Approaches

Credits: 3

Developing a thematic body of drawings.

Repeat for Credit
Y

Requisites
Requisites ART 311 or ART 325

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

ART 600 - Drawing Workshop

Credits: 3

Research with emphasis on proposing a self-directed drawing project.

Repeat for Credit
Y

Requisites
Prerequisite: ART 311 or ART 325

Typically Offered
Spring

ART 601 - Graphic Design History/Theory/Criticism

Credits: 3

Study of significant works from late nineteenth century to the present to provide understanding of the development and character of graphic design, artists, and designers.

Note
Three hours lecture.

Repeat for Credit
N

Typically Offered
Fall, Spring

ART 602 - Twentieth Century Art History III: Abstract Expressionism to Pop Art

Credits: 3

Art movements beginning with abstract expressions and continuing through pop, op, minimal, and conceptual art movements up to 1980.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ART 603 - Twentieth Century Art History IV: Conceptual Art to Contemporary Art

Credits: 3

The art movements of the 1980s beginning with photo-realism and continuing through pattern and decoration, new image art, neo-expressionisms, and neo-abstraction.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Historical Perspectives

ART 604 - Greek Art History

Credits: 3

The art of classical Greece, from its Aegean origins through the Hellenistic period.

Repeat for Credit
N

Requisites
Prerequisite: ART 195 or ART 196.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Historical Perspectives

ART 606 - Visual Art Administration & Leadership

Credits: 3

Surveys facets of management in the visual arts as preparation for work in non-profit museums, galleries or commercial galleries, and working within communities generating projects of impermanence such as performance, social practice and generosity works, pop-up exhibitions, and on-line art projects.

Repeat for Credit
N

Requisites
Prerequisite: Junior or Senior standing preferred.

Typically Offered
Spring, Summer

K-State 8
Aesthetic Interpretation

ART 608 - Special Studies in Art

Credits: 3

Specialized workshops or seminars conducted in studio, art therapy, art education, or art history.

Repeat for Credit
Y

Requisites
Prerequisite: Three credit hours in the relevant area.

Typically Offered
Fall, Spring, Summer

ART 610 - Figure Drawing II

Credits: 3

Continuation of Figure Drawing I, with emphasis on individual expression.

Note
Six hours lab. May be taken for four semesters.

Repeat for Credit
Y

Requisites
Prerequisite: ART 325.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 612 - History of Italian Renaissance Art

Credits: 3

Renaissance art of Italy from the thirteenth through the sixteenth centuries.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Historical Perspectives

ART 613 - History of Northern Renaissance Art

Credits: 3

Renaissance Art of Northern Europe from the fourteenth through the sixteenth century.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Historical Perspectives

ART 614 - Italian Renaissance Architecture: Patronage and Construction

Credits: 3

Renaissance architecture of central Italy. A case-study approach with a focus on aesthetics, construction, function, and patronage.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ART 616 - Motion Design

Credits: 3

Specialized training in motion design.

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Summer

K-State 8
Aesthetic Interpretation

ART 621 - Advanced Concepts in Digital Video

Credits: 3

Introduction to digital video and experimental practices related to moving images and storytelling.

Repeat for Credit
Y

Requisites
Prerequisite: ART 395

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

ART 622 - Baroque Art History

Credits: 3

The development of the baroque period in northern and southern Europe, from its beginnings in the early seventeenth century to the rococo style of the eighteenth century.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Historical Perspectives

ART 623 - Advanced Concepts in Digital and Expanded Media

Credits: 3

Studio exploration of advanced concepts in Digital and Expanded Media artistic practice.

Repeat for Credit
Y

Requisites
Prerequisite: ART 331

Typically Offered
Fall, Spring

ART 626 - Advanced Studies in Photography

Credits: 3

Advanced work in photography with an emphasis on personal development. Focuses on developing well-researched concrete body of work based on prior experience, and relevant new research in the history, and contemporary practices in art photography.

Note
Students concentrating in Photography should ideally repeat this course two or more number of times.

Repeat for Credit
Y

Requisites
Prerequisite: ART 395, ART 563.

Typically Offered
Fall, Spring

ART 627 - Advanced Study in Photography II

Credits: 3

Advanced work in photography with an emphasis on personal development. Focuses on developing well-researched concrete body of work based on prior experience, and relevant new research in the history, and contemporary practices in art photography.

Note
This is one of the two capstone courses that students will take in their senior year.

Repeat for Credit
Y

Requisites
Prerequisite: ART 395, ART 563.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 628 - Foreign Studies in Art History

Credits: 3-6

Participation in art history study abroad.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

ART 629 - Foreign Studies in Visual Communication Design

Credits: 3-6

Participation in Visual Communication study abroad.

Repeat for Credit
Y

Requisites
Art department major students after completion of second year in their
degree program

Typically Offered
Summer

ART 630 - Foreign Studies in Studio Art

Credits: 3-6

Participation in studio art study abroad.

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

ART 631 - Contemporary Media Seminar

Credits: 3

A review of trends in contemporary media and visual communication.

Note
Studio/lecture.

Repeat for Credit
Y

Requisites
Prerequisite: ART 575.

Typically Offered
Fall, Spring

ART 632 - The Development of American Art

Credits: 3

American art from the Colonial period to the beginnings of abstract expressionism in the early 1940s, with major emphasis on the late nineteenth and early twentieth century developments.

Repeat for Credit
N

Requisites
Prerequisite: ART 195 or ART 196.

Typically Offered
Fall, Spring

ART 634 - History of Modern Sculpture

Credits: 3

Directions in sculpture since the time of Rodin.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Historical Perspectives

ART 635 - Advanced Printmaking Workshop: Illustration and Experimentation

Credits: 3

Advanced level individual and collaborative print based studio work in intaglio (etching), lithography, relief printing (woodcut), screen printing, digital, or monoprint printmaking processes. Emphasis on illustration of ideas and technical experimentation.

Repeat for Credit
Y

Requisites
Prerequisite: ART 335.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 636 - Advanced Printmaking Workshop: Imagination and Innovation

Credits: 3

Advanced level individual and collaborative print based studio work in intaglio (etching), lithography, relief printing (woodcut), screen printing, digital or monoprint printmaking processes. Emphasis on imagination and technical innovations.

Repeat for Credit
Y

Requisites
Prerequisite: ART 335.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 642 - Nineteenth Century Art History

Credits: 3

Painting, sculpture, and architecture of the late eighteenth and nineteenth centuries, with emphasis on the art of France.

Repeat for Credit
N

Requisites
Prerequisite: ART 195 or ART 196.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Historical Perspectives

ART 645 - Sculpture II

Credits: 3

Emphasis on artistic development through exploratory experiences in the various media. Advanced wood working processes, mold making, foundry techniques and welding processes.

Note
Six hour lab.

May be taken for four semesters.

Repeat for Credit
Y

Requisites
Prerequisite: ART 340.

Typically Offered
Fall, Spring

ART 650 - Painting Topics

Credits: 3

Individualized studio work in varied painting media directed toward identifying and developing a personal vision and mode of expression. Working primarily from the basis of subject, concept, and degree of representation as catalyst for form and material choice, a range of approaches will be explored within both contemporary and historical contexts. Emphasis for graduating seniors will be on producing a cohesive body of work in preparation for the BFA exhibition.

Note
Six hours studio

Repeat for Credit
Y

Requisites
Prerequisite: ART 345

Typically Offered
Fall or Spring

ART 652 - Advanced Painting Topics II

Credits: 3

Continuation of ART 650. Individualized studio work in varied painting media for personal expression. Approaches explored within both contemporary and historical contexts. Seniors will contribute to their cohesive body of work in preparation of BFA exhibition.

Note
Six hours studio.

Repeat for Credit
Y

Requisites
Prerequisite: ART 320, ART 345.

Typically Offered
Spring

ART 653 - Painting Methods

Credits: 3

Individualized studio work in varied painting media directed toward identifying and developing a personal vision and mode of expression. Working from the primary basis of methods, strategies, materials and process, painting's potential for interpretation of subject, representation, and content will be explored within both contemporary and historical contexts. Emphasis for graduating seniors will be on producing a cohesive body of work in preparation for the BFA exhibition.

Note
Six hours studio

Repeat for Credit
Y

Requisites

Prerequisite: ART 345

Typically Offered
Fall or Spring

ART 654 - Women in Art

Credits: 3

The work of women artists from early Middle Ages to the twentieth century, with emphasis on the contemporary period.

Repeat for Credit
N

Requisites
Prerequisite: ART 195 or ART 196.

Typically Offered
Fall, Spring

ART 655 - Advanced Studio in Metals and Jewelry

Credits: 3

Explore concepts and processes in contemporary metal art and jewelry field. Develop individual research projects through assignments, individual meetings, presentations, and group critiques. Students in capstone section will focus on creating a unique body of work for BFA show and portfolio.

Note
This course is for senior students. Nine hours lab.

Repeat for Credit
Y

Requisites
Prerequisite: Art 370 or Art 103 or permission of instructor

Typically Offered
Fall, Spring

ART 656 - Art Museum/Gallery Internship

Credits: 3

Practical professional art museum or gallery experience in appropriate institutions of at least 120 hours full-time or 150 hours part-time. May include processing of collections, conservation, cataloging, archive and library maintenance, education and outreach, and/or planning and preparation of exhibits.

Note
Consent of Art Department internship advisor required.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 660 - Sculpture

Credits: 3

Conduct independent, individually-driven creative work for research, planning, and execution of a capstone project in sculptural practice for BFA Studio Art exhibition.

Note
Instructor permission required for non-majors.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ART 661 - Advanced Painting Methods II

Credits: 3

Individualized studio work in varied painting media directed toward identifying and developing a personal vision and mode of expression. Working from the primary basis of methods, strategies, materials and process, painting's potential for interpretation of subject, representation, an content will be explored within both contemporary and historical contexts. Emphasis for seniors will be on producing a cohesive body of work in preparation of BFA exhibition.

Note
Six hours studio.

Repeat for Credit
Y

Requisites
Prerequisite:ART 320, ART 325, and one semester of ART 653 or ART 650.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

ART 662 - Southwestern Indian Arts and Culture

Credits: 3

The development of southwestern Indian silversmithing, weaving, pottery, basketry, and painting from the prehistoric period through the twentieth century.

Repeat for Credit
N

Requisites
Prerequisite: ART 195 or ART 196.

Typically Offered
Fall, Spring

ART 665 - Contemporary Ceramics Workshop

Credits: 3

Contemporary ceramic practices are explored through concept-based projects using mixed media and ceramic techniques.

Note
Six hours lab.

Repeat for Credit
Y

Requisites
Prerequisite: ART 365 or ART 102

Typically Offered
Spring

ART 667 - Ceramic Design Workshop

Credits: 3

Explores both handmade and digital approaches to prototypes and production for functional ceramics.

Note
Six hours lab.

Repeat for Credit
Y

Requisites
Prerequisite: ART 365 or ART 102

Typically Offered
Fall

ART 675 - History of Ceramics

Credits: 3

History and development of ceramics; study of the use of pottery and other forms of ceramics from earliest known examples to present day.

Repeat for Credit
N

Typically Offered
Fall, Spring

ART 679 - Color Experiments, Theory and Application

Credits: 3

Explores the interaction of color through a variety of exercises, both practical and experimental. Emphasis on visual perception and the relative use of color. Color's potential in illusionist structures and visual communication, color systems.

Repeat for Credit
N

Requisites
Prerequisite: ART 180.

Typically Offered
Intersession

ART 680 - Topics in Contemporary Metals and Jewelry

Credits: 3

Explores concepts and processes in contemporary metal art and jewelry.

Repeat for Credit
Y

Requisites
Prerequisite: ART 370 or ART 103 or permission of instructor

Typically Offered
Fall, Spring

ART 682 - Metals and Jewelry Workshop

Credits: 3

Application of concepts and processes in contemporary metal art and jewelry through individual creative research and making.

Repeat for Credit
Y

Requisites
Prerequisite: Art 370 or Art 103 or permission of instructor

Typically Offered
Spring

ART 685 - Advanced Independent Study Design

Credits: 1-18

Advanced work in design-related subjects.

Repeat for Credit
Y

Requisites
Prerequisite: Full sequence of courses related to problem subject matter.

Typically Offered
Fall, Spring, Summer

ART 686 - Advanced Studies in Ceramics Studio

Credits: 3

Explores ceramic material processes and characteristics through individual creative research projects. The capstone section is taken in conjunction with the BFA exhibition.

Repeat for Credit
Y

Requisites
Prerequisite: ART 565.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 687 - Ceramics Capstone

Credits: 3

Creation of a cohesive body of work in ceramics around a selected theme. The capstone section is taken in conjunction with the BFA exhibition.

Repeat for Credit
Y

Requisites
Prerequisite: ART 565.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 690 - Techniques in Teaching Art

Credits: 1-18

Lectures and class discussion of methods, consideration of suitable laboratory equipment, use of illustrative material, and preparation of courses of study.

Repeat for Credit
N

Requisites
Prerequisite: Twelve hours in art or consent of instructor.

Typically Offered
Fall

ART 692 - Drawing Workshop II

Credits: 3

The senior capstone course, dedicated to refining individually determined drawing portfolio.

Repeat for Credit
Y

Requisites
Prerequisite: ART 572 or ART 599.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ART 695 - Topics in Art History

Credits: 3

Exploration of selected topics in art history.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 820 - Graduate Graphic Design/Visual Communications

Credits: 1-18

Advanced creative work with emphasis on technical and visual research.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 822 - Graduate Digital Media

Credits: 1-18

Advanced creative work with emphasis on technical and visual research.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

ART 825 - Professional Practices

Credits: 3

Selected topics dealing with career preparation skills such as developing a professional and teaching portfolio, computer techniques for promoting one's art, establishing relationships with galleries/museums, and agencies, basic techniques of exhibition design and installation, techniques of critiquing works of art, etc.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall, Spring

ART 826 - Graduate Seminar

Credits: 3

Emphasis upon the exchange of ideas and exploration of critical theory. Direct involvement in critiques, readings, discussions, and field trips. Each semester a different theme will guide a pertinent topic from within the field.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ART 830 - Graduate Sculpture Studies

Credits: 1-18

Advanced creative work with emphasis on technical and visual research.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 835 - Graduate Drawing Studies

Credits: 1-18

Advanced creative work with emphasis on technical and visual research.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 845 - Graduate Painting Studies

Credits: 1-18

Advanced creative work with emphasis on technical and visual research.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 855 - Graduate Printmaking Studies

Credits: 1-18

Advanced creative work with emphasis on technical and visual research.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 865 - Graduate Ceramics Studies

Credits: 1-18

Advanced creative work with emphasis on technical and visual research.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 875 - Graduate Metalsmithing and Jewelry Studies

Credits: 1-18

Advanced creative work with emphasis on technical and visual research.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 885 - Graduate Independent Studies

Credits: 1-5

Advanced individual work offered in studio areas of ceramics, graphic design, digital media, drawing, painting, printmaking, sculpture, and metalsmithing and jewelry.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ART 887 - Contemporary Art Theory and Criticism

Credits: 3

Discussion of the principal theories influencing production and criticism of contemporary art.

Repeat for Credit
Y

Typically Offered
Fall

ART 888 - Graduate Studies in Photography

Credits: 1-10

Focus on the conceptual nature of the photographic medium. Students will be encouraged to produce work useful for their graduate thesis. Course readings will be on photo theory and image relationships.

Note

This course may be taken after or concurrently with Graduate Independent Study.

Repeat for Credit
N

Typically Offered
Fall, Spring

ART 899 - Research in Art

Credits: 1-18

Research which may form the basis for the master's of fine art thesis or report.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ASI 100 - Special Topics in Animal Science

Credits: 0-6

Seminars of special interest. Will be offered upon sufficient demand in selected areas relating to animal science.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ASI 101 - Foundations in Animal Sciences & Industry

Credits: 1

Introduction to the animal sciences & industry programs, activities, resources, faculty and career opportunities.

Note
Required of all freshmen in animal sciences & industry.

One hour seminar a week.

Repeat for Credit
N

Requisites
Prerequisite: Freshman in ASI or PRVAG.

Typically Offered
Fall

ASI 102 - Principles of Animal Science

Credits: 3

Basic principles which apply to animal agriculture; survey of the industry; types, purposes, and products of livestock; principles of breeding, selection, nutrition, lactation, reproduction, management, and marketing.

Note
Three hours recitation a week. ASI 105, 106, and 107 are companion courses.

Repeat for Credit
N

Typically Offered
Fall, Spring

ASI 105 - Livestock Lab

Credits: 1

An introductory laboratory to expose students to breeding and market types of the primary production livestock species (beef cattle, swine, sheep, and meat goats), including a comparison of the live animal and animal products (meat and wool).

Note
Two hours lab a week.

Repeat for Credit
N

Requisites
Recommended Prerequisite: ASI 102 or concurrent enrollment.

Typically Offered
Fall, Spring

ASI 106 - Dairy Lab

Credits: 0.5

Introduction to the dairy industry.

Note
Two hours of lab a week for eight weeks.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

ASI 107 - Companion Animal Lab

Credits: 0.5

Introduction to the companion animal industry.

Note
Two hours lab a week for eight weeks.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

ASI 108 - Poultry Lab

Credits: 0.5

Introduction to the poultry industry.

Note
Two hours lab a week for eight weeks.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

ASI 109 - Horse Lab

Credits: 0.5

Introduction to the horse industry.

Note
Two hours lab a week for eight weeks.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

ASI 150 - Anatomy and Physiology of Domestic Animals

Credits: 3

An overview of anatomy and physiology in domestic animals. Emphasis will be placed on comparative anatomy across species.

Note
Two hours lecture and two hours laboratory per week.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

ASI 202 - Domestic Animal Nutrition

Credits: 3

An overview of major nutrients required by domestic animals and their inclusion in common ingredients. Basic feedstuff identification and introductory diet formulation is included.

Note
2 hours lecture and 1 hour recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 100 or higher or STAT 225 or higher

Typically Offered
Fall, Spring

ASI 210 - Intro to Animal Biotechnology

Credits: 3

This course is designed to provide undergraduates in the College of Agriculture hands-on experience in molecular biology and associated problem-solving for applications in agriculture. Students will learn the basics of laboratory book maintenance, pipetting, dilution and concentration calculations, DNA and RNA extraction and amplification, and protein isolation and quantification.

Repeat for Credit
N

Requisites
Prerequisite: Freshman or Sophomore Standing

Typically Offered
Fall

ASI 218 - Fundamentals of Nutrition

Credits: 3

Elementary principles of comparative nutrition of farm animals.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 110 or CHM 210. Recommended prerequisite: BIOL 198.

Typically Offered
Fall, Spring, Summer

K-State 8
Natural and Physical Sciences

ASI 220 - Principles of Feeding

Credits: 3

Application of basic nutrition principles to the feeding of beef cattle, sheep, and swine; feedstuff evaluation; nutrient requirements; ration formulation and practical feeding problems.

Note
Two hours lecture and 2 hours of lab a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 100 and ASI 218.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

ASI 261 - Animal Sciences and Industry Problems

Credits: 0-6

Independent guided studies in any of the many fields associated with animals and animal products.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ASI 262 - Special Topics in Animal Science

Credits: 0-6

Topics of special interest. Will be offered upon sufficient demand in selected areas relating to animal science.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ASI 290 - Computer Applications for Animal Sciences and Industry

Credits: 3

Applications of computer techniques and software to the solutions of problems in animal science and related food industries. Includes use of existing software packages for breakeven analysis, animal identification and health records, farm/ranch accounting, and electronic communication.

Note
Three hours lecture a week.

Repeat for Credit
N

Typically Offered
Fall, Spring

ASI 300 - Animal Sciences and Industry Career Preparation

Credits: 1

Career exploration and life skill development. Assist students with internship development, interviewing skills, and professional communication formats.

Note
One hour seminar a week.

Repeat for Credit
N

Requisites
Prerequisite ASI major and Sophomore standing.

Typically Offered
Fall, Spring

ASI 301 - Transfer Foundations in ASI

Credits: 0

An overview of the Animal Sciences and Industry undergraduate program, including its undergraduate degree requirements, activities, and resources.

Note
One hour lecture per week for four weeks

Repeat for Credit
N

Requisites
prerequisite: ASI major

Typically Offered
Fall, Spring

ASI 302 - Advanced Animal Nutrition

Credits: 3

A study of advanced nutrition concepts for domesticated animals. Emphasis will include determination of nutrient requirements, application of biological and chemical processes to nutrient utilization, and considerations for diet formulation.

Note
3 hours lecture per week

Repeat for Credit
N

Requisites
Prerequisite: ASI 202, CHM 110 or higher, BIOL 101 or higher

Typically Offered
Fall, Spring

ASI 308 - Dairy Foods Processing and Technology

Credits: 3

The fundamental technologies used to process high quality dairy foods using freezing, heat membrane and pressure technologies. Changes in milk chemistry, microbiology and structure will be emphasized during the processing of butter, soft and hard cheeses, concentrated milks, ice cream and yogurt.

Note
Two hours of lecture and one two-hour lab a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 255.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ASI 310 - Poultry and Poultry Product Evaluation

Credits: 2

Applied knowledge of physical and anatomical characteristics for evaluating poultry for egg and meat production. Evaluation of ready-to-cook poultry products as well as eggs on their exterior, interior, and broken-out appearance according to the latest USDA standards.

Note
Two two-hour labs a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: ASI 108.

Typically Offered
Fall

ASI 315 - Livestock and Meat Evaluation

Credits: 3

Evaluation of slaughter livestock and their carcasses as related to economically efficient production of red meat. Evaluation of breeding livestock on visual appraisal and performance records. A study of growth and the effects of nutrition, environment, and hormones on growth patterns. Breeds of livestock and performance programs will be studied.

Note
One hour lecture and four hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 105. Recommended Foundation Course: ASI 102 or instructor consent.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

ASI 325 - Beginning Horse Evaluation

Credits: 2

Evaluation of conformation and athletic performance of horses. The use of records in selection and the influence of heredity, environment, and training on conformation and performance is addressed.

Note
Students will learn to give an oral justification of their evaluations. Four hours lab a week.

Repeat for Credit
N

Typically Offered
Spring

ASI 326 - Advanced Horse Evaluation

Credits: 2

In-depth study of horse conformation and performance horse evaluation. Theories from various equine disciplines are covered with emphasis placed on interpreting horse industry standards, and abilities to communicate those ideals effectively.

Note
One hour lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 325.

Typically Offered
Fall

ASI 333 - Equine Enterprise Management

Credits: 1

Emphasis will be placed on management issues affecting the successful development and operation of an equine facility. Topics covered include health care, diet formulation, equipment needs, facility design and management, and equine business considerations.

Note
Two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in Equine Science Certificate Program (CEQSC) and sophomore standing.

Recommended Prerequisite: ASI 109.

Typically Offered
Fall-Odd Years

ASI 345 - Beginning Horse Training and Management

Credits: 2

Inherited and learned behavior of the horse. Development of methods to communicate with the horse. Emphasis on handling and safety techniques. Opportunities to observe and practice advanced training techniques used in saddling and riding.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in Equine Science Certificate Program (CEQSC).

Typically Offered
Fall

ASI 350 - Meat Science

Credits: 3

An introduction to the red meat industry relating the fundamental properties of muscle structure, chemistry, and physiology to meat quality, composition, processing, nutritional value, and marketing. The laboratory will demonstrate the conversion of animals to meat and by-products, and meat processing technology.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: BIOL 198, or a course in chemistry.

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences

ASI 361 - Meat Animal Processing

Credits: 3

A student participation course in processing live animals into meat and by-products. Interrelates all phases of modern slaughter and processing techniques, inspection and processing, and related operations.

Note
2 hours lecture and 3 hours lab per week

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences

ASI 370 - Principles of Meat Evaluation

Credits: 2

The use of subjective and objective standards to evaluate beef, lamb, and pork carcasses and wholesale cuts for both quality and yield of edible portion as they relate to value and consumer acceptance.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

ASI 385 - Wool Grading and Evaluation

Credits: 1

A study of factors determining the commercial grades of wool and the desired fleece qualities of sheep, practice in judging and grading wool.

Note
Three hours lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: ASI 102.

Typically Offered
Fall

ASI 390 - Principles of Livestock Selection

Credits: 2

Origin, development, characteristics, and adaptation of different breeds of livestock, with special emphasis on the selection of market and breeding animals.

Note
Four hours lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: ASI 315.

Typically Offered
Fall

ASI 395 - Intermediate Horse Training & Management

Credits: 2

Application of training techniques used to start young horses under saddle. Emphasis is placed on developing groundwork skills needed to prepare horses for riding, including longeing, introduction to the saddle and bridle, and driving.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in Equine Science Certificate Program (CEQSC).

Typically Offered
Spring

ASI 396 - Dairy Cattle Judging

Credits: 2

An introduction to the principles of evaluating dairy cattle on the basis of their physical characteristics. Interpretation of the official dairy cow unified score card. Training includes preparation and presentation of oral defense on one's placing of four cow classes.

Repeat for Credit
N

Requisites
Recommended Foundation Course: ASI 102 and ASI 106.

Typically Offered
Spring

ASI 400 - Farm Animal Reproduction

Credits: 3

Basic reproductive anatomy and physiology of cattle, horses, pigs, poultry, and sheep during the first half of the semester provides a solid basis for reproduction management topics which occupy the second half of the course.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 102, BIOL 198 and Sophomore standing.

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences

ASI 401 - Farm Animal Reproduction Laboratory

Credits: 1

Laboratory exercises with reproductive specimens of farm species. Will include adult male and female reproductive tracts, anatomical changes associated with estrous cycles and anestrus, pregnancy, fetal and placental development, semen characteristics, and ultrasonography.

Note
Two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 400 or concurrent enrollment.

Typically Offered
Spring

ASI 402 - Calving

Credits: 1

Emphasis will be placed on various aspects of managing parturition in cattle. Focus on stages of parturition, dystocia, and calf care.

Repeat for Credit
N

Requisites
Recommended Foundation Course: ASI 102 and junior standing.

Typically Offered
Spring

ASI 403 - Foaling

Credits: 1

Events associated with late gestation, parturition, and the early postpartum period in the horse. Emphasis will be placed on the important aspects of caring for and monitoring a pregnant/lactating mare and her newborn foal.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in Equine Science Certificate Program (CEQSC) and sophomore standing.

Recommended Prerequisite: ASI 102 and ASI 109

Typically Offered
Spring

ASI 404 - Lambing

Credits: 1

Theoretical and practical experience in lambing. Management of the ewe and lambs at parturition, physiology of parturition, and common problems encountered by ewes and lambs during parturition.

Repeat for Credit
N

Requisites
Recommended Foundation Course: ASI 102 and junior standing.

Typically Offered
Spring

ASI 405 - Fundamentals of Milk Processing

Credits: 3

A study of fundamentals of processing, quality assurance, inspection, and marketing of fluid milk and related products in a modern market milk enterprise.

Note
Two hours lecture and one three-hour lab a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Historical Perspectives

ASI 420 - Advanced Dairy Cattle Judging

Credits: 1

Advanced Dairy Cattle Judging

Note
Three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 396.

Typically Offered
Fall

ASI 422 - Livestock Sales Management

Credits: 0-1

Hands-on experience in the planning, promotion, and production of a purebred livestock sale.

Repeat for Credit
Y

Requisites
Recommended prerequisite: Junior standing.

Typically Offered
Fall, Spring

ASI 435 - Advanced Dairy Products Evaluation

Credits: 0-1

Advanced training in the sensory analysis of dairy products, focusing on techniques for detecting and evaluating flavor, body and texture, and appearance. The course covers the scoring system used for dairy product judging and includes participation in collegiate dairy products evaluation contests.

Repeat for Credit
Y

Requisites
Prerequisites: FDSCI 335

Typically Offered
Spring

ASI 444 - Equine Health

Credits: 3

Fundamentals of equine health care and practical experience with the procedures routinely performed by horse owners in the overall management of their horse's well-being. Topics covered include basic anatomy and physiology, recognizing and managing disease conditions and emergency situations, and preventative management strategies and treatment options for a variety of health-related issues.

Note
Two hours lecture and two hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in Equine Science Certificate Program (CEQSC) and sophomore standing.

Recommended Prerequisite: ASI 109.

Typically Offered
Fall

ASI 445 - Advanced Horse Training and Management

Credits: 2

Students will further develop skills acquired in ASI 345. Students will learn how to utilize advanced training practices and applications to enhance the training and performance of horses.

Repeat for Credit
N

Requisites
Recommended Foundation Course: ASI 345.

Typically Offered
Spring

ASI 470 - Form and Function in Livestock

Credits: 2

A detailed study of animal form and type; influence of type related to function; special training in presenting orally the relative merits of beef cattle, sheep, swine, and horses.

Repeat for Credit
N

Requisites
Prerequisite: ASI 390.

Typically Offered
Fall

ASI 495 - Advanced Meat Evaluation

Credits: 2

Advanced study in the evaluation of carcasses, wholesale

cuts, and retail cuts of beef, lamb, and pork. Application of grade standards and specifications to beef, lamb, and pork carcasses and subprimal cuts.

Note
Three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 370.

Typically Offered
Fall

ASI 500 - Genetics

Credits: 3

This course builds a foundation in essential genetic principles, starting with Mendelian inheritance and extending to molecular and population genetics.

Note
Three hours lecture a week. Students cannot earn credit for both ASI 500 and ASI 511. The on-campus students enroll in the spring. Online program students enroll in the fall.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198, MATH 100 and Junior Standing.

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences

ASI 501 - Principles of Animal Breeding

Credits: 1

Introduction to the basic principles of quantitative genetics and their applications to selection and mating in animal populations.

Note
One hour recitation per week. Students cannot earn credit for both ASI 501 and ASI 511. The on-campus students enroll in the fall and online program students enroll in the spring.

Repeat for Credit
N

Requisites
Prerequisite: ASI 500

Typically Offered
Fall, Spring

ASI 504 - Equine Reproduction Management

Credits: 3

Overview of the physiological mechanisms involved in equine reproduction and the scientific reasoning behind breeding management decisions. Recent advances in equine reproductive technology will be highlighted and relevant research will be incorporated into the presentations.

Note
Three hours lecture a week

Repeat for Credit
N

Requisites
Prerequisite: Junior standing. Recommended prerequisite: ASI 400.

Typically Offered
Spring

ASI 505 - Equine Reproduction Management Lab

Credits: 1

This course is the laboratory complement to ASI 504. It includes demonstrations and hands-on exercises focused on learning equine breeding techniques. Topics will include mare and stallion handling, estrus detection, semen collection and processing, and artificial insemination.

Note
Four hours lab a week for eight weeks

Repeat for Credit
N

Requisites
Corequisite ASI 504

Typically Offered
Spring

ASI 510 - Animal Breeding Principles

Credits: 3

The genetic principles of evaluation, selection and mating systems used in beef, dairy, sheep, swine, poultry, horse and companion animal breeding. Intended for ASI majors and minors.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 102 and ASI 500.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

ASI 511 - Applied Animal Breeding and Genetics

Credits: 4

A combined animal breeding and genetics course featuring quantitative genetics and how the principles of genetic evaluation, natural and artificial selection, genomics, and mating systems are utilized for genetic improvement in livestock, horse, and companion animal species. This course also includes an introduction to Mendelian, molecular, and population genetics and their applications in livestock breeding.

Note
Three hours lecture and one hour recitation per week. Students may not earn credit for both ASI 500 + 501 and ASI 511. The on-campus students enroll in the fall. Online program students enroll in the spring.

Repeat for Credit
N

Requisites
Prerequisites: BIOL 198, MATH 100, junior standing

Typically Offered
Fall, Spring

ASI 512 - Bovine Reproductive Technologies

Credits: 2

Reproductive technologies used in management of cattle including the physiology of the estrous cycle, embryo viability, and fetal development. Practical training in reproductive management technique.

Note
One hour lecture and five hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 400, senior standing and consent of instructor.

Typically Offered
Fall

ASI 515 - Beef Science

Credits: 3

A comprehensive course covering all phases of the beef cattle industry. Practical application of nutrition, breeding, physiology of reproduction, merchandising, risk management and related areas. Special emphasis on management systems of raising, growing and finishing beef cattle.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: Junior or senior standing.

Typically Offered
Fall, Spring

ASI 520 - Companion Animal Management

Credits: 3

General biology and management of pets in zoos, kennels and at home. Working safely with companion animals. Management of animals in kennels, shelters, research facilities and zoos. Regulatory issues of small animals used as companion pets and in laboratory research. Interactive discussion and written skills will be emphasized.

Note
Three hours of lecture/recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing. Recommended prerequisite: ASI 107.

Typically Offered
Spring

ASI 521 - Horse Science

Credits: 3

A study of the horse industry in the United States, breed profiles, anatomy and evaluation, nutrition, reproduction, growth and development, health, exercise physiology, facilities and equipment, business considerations.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Spring

ASI 524 - Sheep and Meat Goat Science

Credits: 3

Application of scientific management principles to the sheep and meat goat industries. Breeding, reproduction, nutrition, health, management and economic aspects as related to sheep and meat goat production.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall

ASI 533 - Physiology of Domestic Animals

Credits: 3

Advanced application of physiology within domesticated animals.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 150, BIOL 198, junior standing

Typically Offered
Spring

K-State 8
Natural and Physical Sciences

ASI 535 - Swine Science

Credits: 3

Application of basic scientific principles to the economical production of pork. Recommendations are made in breeding, reproduction, nutrition, health, housing, marketing, and management of swine production units of varying sizes.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Junior or senior standing.

Typically Offered
Fall, Spring

ASI 540 - Principles of Animal Disease Control

Credits: 3

A study of the factors that influence animal health and disease control for students majoring in agriculture and other fields.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: Junior Standing.

Typically Offered
Spring

ASI 560 - Course-Based Undergraduate Research in Animal Sciences & Industry

Credits: 2

Formal undergraduate research in the area of Animal Sciences & Industry conducted as part of a conventional course. Class consists of 1-hour lecture and two hours of laboratory per week

Repeat for Credit
N

Requisites
Recommend Foundation Course: ASI 102.

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility

ASI 561 - Undergraduate Research in Animal Sciences & Industry

Credits: 0-3

Mentored undergraduate research experience in animal or food sciences.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

ASI 595 - Current Issues in Animal Science

Credits: 3

This course reviews current issues in the animal science industry, with emphasis on understanding current scientific knowledge and challenges. It is intended to serve as a capstone course for students majoring in animal sciences and industry and should be taken in their last year.

Note
3 hours recitation per week

Repeat for Credit
N

Requisites
Prerequisite: COMM 106 or COMM 130, ENGL 200, ASI 202, ASI 300, and ASI 400

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

ASI 599 - Animal Science Internship

Credits: 1-6

Supervised professional experience in animal science related field. One credit hour per month full-time supervised and evaluated work hours. Internship proposal, evaluation by supervisor, self-assessment and presentation of internship required.

Note
Permission of supervising faculty member.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ASI 600 - Applied Animal Biotechnology

Credits: 3

The objective of this course is to provide insight into the use of large animals in areas of biotechnology. The course will emphasize the use of livestock in food production as well as human medicine applications. A two-hour lecture per week will include topics such as marker assisted selection of livestock, in-vitro fertilization, transgenics, cloning and stem cell technology. A two-hour lab per week will complement material from lectures including PCR, DNA isolation and oocyte collection.

Note
Two-hour lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Junior Standing and ASI 500 or ASI 511 or BIOL 398.

Recommended prerequisite: BIOCH 521.

Typically Offered
Spring

ASI 601 - Endocrinology and Lactation

Credits: 3

Provides an overview of the endocrine systems that regulate mammalian lactation and other related physiological processes. Topics include structure and function of important endocrine glands and their hormones, receptors, target tissues and physiological mechanisms of action. Emphasis will be placed on whole animal hormonal interactions that regulate nutrient availability for production of milk in dairy cattle and other dairy species. Upon completion of the course students should be able to identify important endocrine organs and hormones and apply their understanding to problems in dairy production.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198 and junior standing.
Recommended prerequisite: ASI 400, ASI 533 or BIOL 340.

Typically Offered
Fall

ASI 602 - Equine Breeding and Genetics

Credits: 2

Application of genetic and animal breeding principles to the horse. Emphasis on inheritance of color and diseases, as well as selection and mating programs.

Note
Two hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Recommended prerequisite: ASI 500 and ASI 510.

Typically Offered
Fall-Even Years

ASI 610 - Processed Meat Operations

Credits: 2

A course in processed meats, relating to the science, technology, and quality control of curing, smoking, and sausage manufacturing.

Note
One hour lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 350

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

ASI 620 - Beef Systems Management

Credits: 2

Development of beef enterprise business plans and

interacting with beef producers on topics related to cow-calf production, feedlot operations, seedstock operations, animal health, environmental management, and business management.

Note
One hour of lecture twice a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 515

Typically Offered
Spring

ASI 621 - Dairy Cattle Management

Credits: 3

Integration of biologic and economic aspects of dairy production with dairy farm organization, planning, operation and analysis. Field trips, dairy farm analysis and case studies will be used to supplement lecture material.

Note
Two hours recitation, two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Junior or senior standing.

Typically Offered
Fall

ASI 635 - Gamebird Production and Management

Credits: 3

Principles and practices of upland game bird production including incubation and hatching, flight pen construction, nutritional management, predation control, disease management and meat processing.

Note
Two hours lecture and 2 hours lab per week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: ASI 108.

Typically Offered
Spring

ASI 640 - Poultry Products Technology

Credits: 3

Emphasis on the technical problems that exist between production and consumption during the processing and marketing of poultry meat and egg products. A study of the microbiology of shell eggs, meat and manufactured products and the basic principles of quality assurance. Food manufacturing and product development are discussed.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: ASI 108.

Typically Offered
Fall-Even Years

ASI 645 - Poultry Management

Credits: 3

A detailed study of the production and management practices involved in commercial poultry and game bird enterprises.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Junior or senior standing.

Typically Offered
Fall-Odd Years

ASI 650 - Identification and Data Management of Food Animals

Credits: 2

Procedures and the conventions required to accomplish individual identification for farm animals. Principles of sound data collection and management. Principles of automatic information and data capture technologies for transforming data into information. Guest lectures from allied industry and livestock producers will illustrate various products, services and applications.

Note
Two hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall

ASI 655 - Behavior of Domestic Animals

Credits: 3

Students gain knowledge about the behavioral sciences' fields, historical perspectives, and scientific methodologies. Behavior is evaluated from a biological perspective (i.e. physiology, development, adaptation, and genetics). Students refine observational skills and identify methods for quantifying behavior and interpreting results to improve animal health, management, housing, training, and welfare.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198 and junior standing.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

ASI 658 - Animal Growth and Development

Credits: 3

The molecular and endocrine mechanisms of prenatal and postnatal growth and development of muscle, bone, and adipose tissue will be discussed. Historical and current scientific literature will be reviewed and utilized to reinforce the topics covered.

Note
Three hours of lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 150 and Junior standing.
Recommended Prerequisite: a course in biochemistry

Typically Offered
Spring

ASI 660 - International Study Experience in Animal Science

Credits: 0-6

Seminar and travel course designed to prepare students before the experience and for students to analyze, critique, and report their experiences of an international experience associated with study tours or short courses. Course will focus on appropriate oral and written documentation of the student learning objectives for course experience. The academic topics will vary with each international activity.

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Historical Perspectives

ASI 661 - Animal Sciences and Industry Problems

Credits: 0-18

Independent guided studies in any of the many fields associated with animals and animal products.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ASI 662 - Special Topics in Animal Science

Credits: 0-6

Seminars of special interest. Will be offered upon sufficient demand in selected areas relating to animal science.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ASI 671 - Meat Selection and Utilization

Credits: 2

Emphasis on meat cut identification, muscle and bone anatomy, grades, fabricated meat, institutional cuts, specification writing, processing, meat preparation and shrinkage costs.

Note
One hour lecture-recitation and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 110 and CHM 111.

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

ASI 675 - Monogastric Nutrition

Credits: 1

This advanced class provides a comparative summary of nutrition for domesticated monogastric animals, including digestive anatomy and the digestion, absoprtion, and metabolism of dietary energy (starch, fiber, lipids), proteins, vitamins, and minerals.

Note
Three hours lecture a week for five weeks.

Repeat for Credit
N

Requisites
Prerequisite: ASI 220 or ASI 302

Typically Offered
Fall

ASI 676 - Avian Nutrition

Credits: 1

Nutritional requirements of game birds, caged birds, exotics, and commercial poultry. Interactive discussion will be emphasized.

Note
Three hours lecture a week for 5 weeks.

Repeat for Credit
N

Requisites
Prerequisite: ASI 675 or concurrent enrollment.

Typically Offered
Fall-Even Years

ASI 677 - Companion Animal Nutrition

Credits: 1

This course is intended to be taken in sequence following Monogastric Nutrition ASI 675. The course will cover the unique nature of nutrition for companion animals with an emphasis on the nutrition of dogs and cats. Details regarding dentition, digestion, metabolism and nutritional requirements will be covered. In addition, an overview of the nutrition of other minor companion species will be provided. Besides standard assessments methods students will be expected to review current research publications on the topic and provide written and oral presentations germane to the topic.

Note
Three hours lecture a week for five weeks.

Repeat for Credit
N

Requisites
Prerequisite: ASI 675 or concurrent enrollment.

Typically Offered
Fall-Odd Years

ASI 678 - Equine Nutrition

Credits: 1

Equine digestive anatomy and physiology. Nutrient requirements of the equine as they relate to growth, work, reproduction and lactation, as well as the relationship of nutrition to disease and environment. Practical management considerations and current equine nutrition research will be reviewed.

Note
Three hours lecture a week for 5 weeks.

Repeat for Credit
N

Requisites
Prerequisite: ASI 675 or concurrent enrollment.

Typically Offered
Fall

ASI 679 - Swine Nutrition

Credits: 1

A study of the nutrient requirements of swine for various stages of production. Discussion of the interrelationships among nutrition and other factors (environment, management, and health) that affect performance.

Note
Three hours lecture a week for five weeks.

Repeat for Credit
N

Requisites
Prerequisite: ASI 675 or concurrent enrollment.

Typically Offered
Fall

ASI 680 - Ruminant Nutrition

Credits: 1

Advanced study of nutritional management of different species of ruminant livestock. Topics covered include ruminal function, post-ruminal digestion and absorption, utilization of key nutrients, and discussion of select metabolic disorders.

Note
Three hours lecture a week for five weeks.

Repeat for Credit
N

Requisites
Prerequisite: ASI 220 or 302.

Typically Offered
Spring

ASI 681 - Dairy Cattle Nutrition

Credits: 1

Nutritional management of dairy calves, replacement heifers, dry and lactating dairy cows. Diet formulation, feeding systems and current concepts in dairy cattle nutrition.

Note
Three hours lecture a week for five weeks.

Repeat for Credit
N

Requisites
Prerequisite: ASI 680 or concurrent enrollment.

Typically Offered
Spring

ASI 682 - Formulation of Livestock and Poultry Diets

Credits: 1

Diet formulation for the major species of livestock and poultry. Major topics include hand formulation of diets: ingredient/nutrient cost comparisons; dry matter manipulation; computerized diet formulation; developing specifications for diets, supplements, basemixes and premixes; projecting animal performance; and feed labeling.

Note
Three hours lecture per week for five weeks.

Repeat for Credit
N

Requisites
Recommended prerequisite: ASI 675 or ASI 680 or concurrent enrollment.

Typically Offered
Fall

ASI 683 - Grazing Livestock Nutrition

Credits: 1

Nutritional management of grazing beef cattle. Nutrition of beef cows and stocker cattle maintained under grazing conditions. Major topics to be covered include nutrient requirements, forage intake, forage quality, and supplementation.

Note
Three hours lecture a week for five weeks.

Repeat for Credit
N

Requisites
Prerequisite: ASI 680 or concurrent enrollment.

Typically Offered
Spring

ASI 684 - Nutrition of Feedlot Cattle

Credits: 1

Nutritional management of growing and finishing beef cattle maintained under confined feeding conditions. Utilization of cereal grains and byproducts in the production of beef. Major topics include nutrient requirements, feed processing, growing-finishing systems, feed additives, metabolic disturbances, and nutrient management.

Note
Three hours lecture a week for five weeks.

Repeat for Credit
N

Requisites
Prerequisite: ASI 680 or concurrent enrollment.

Typically Offered
Spring

ASI 685 - Stored Forage Systems for Ruminant Animals

Credits: 1

A study of nutrient conservation in various stored forage systems including storage facilities and equipment, nutrient loss, aerobic deterioration, chemical and physical analysis. Discussions will also include the impact of stored forage systems on forage quality and the subsequent effects on digestion and utilization in ruminant animals.

Note
Three hours lecture a week for five weeks.

Repeat for Credit
N

Requisites
Prerequisite: ASI 680 or concurrent enrollment.

Typically Offered
Spring

ASI 695 - Principles of Equine Exercise Physiology

Credits: 3

Physiological systems reactions and adaption to exercise and training in the equine athlete. Additional topics addressed will include biomechanics, injury prevention and rehabilitation.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Required Prerequisite: Junior standing.
Recommended Prerequisite: ASI 350, ASI 533, and a course in biochemistry

Typically Offered
Fall

ASI 710 - Physiology of Reproduction in Farm Animals

Credits: 3

The physiological aspects of reproduction in farm animals including endocrine inter-relationships controlling reproductive cycles and gamete production. Periodic demonstrations deal with specialized reproductive anatomy of farm animals, experimental techniques used in animal reproduction, and contemporary animal production practices.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 400.

Typically Offered
Spring-Even Years

ASI 735 - Advanced Dairy Products Evaluation

Credits: 2

Advanced training in the sensory analysis of dairy products, focusing on techniques for detecting and evaluating flavor, body and texture, and appearance. The course covers the scoring system used for dairy product judging and may include participation in collegiate dairy products evaluation contests.

Repeat for Credit
N

Requisites
Prerequisite: graduate student standing

Typically Offered
Spring

ASI 741 - Quantitative Genetics Applications of Matrix Algebra

Credits: 1

The goal of this course is development of skills in matrix algebra to describe and solve problems in the agricultural and life sciences, with particular focus on quantitative genetics. The course is designed for students with no prior knowledge of matrix algebra, and whose formal training in mathematics may be somewhat limited. It will consider the vocabulary, concepts, application and, to a lesser extent, theory of matrix algebra that is relevant to graduate students in the agricultural and life sciences. Application exercises will consider ecological systems, genotypic transition matrices, selection indices, and the numerator relationship matrix. Application of methods such as least squares, and canonical transformation to solve problems in the biological sciences using matrix algebra will also be introduced.

Repeat for Credit
N

Typically Offered
Fall

ASI 742 - Cybersheep: A Genetic Simulation Game

Credits: 1

The goal of this course is for students to be able to make informed and effective decisions in a livestock breeding program. In order to accomplish this goal, the course will provide hands-on experience with selection and mating decisions, and their consequences through a genetic simulation. Genetic gains require time to achieve and there is very little opportunity for students to witness the consequences of breeding decisions in a course. The simulation is designed to offer an opportunity to see in real-time, the outcome of decision-making, and to experience the stochastic (chance) elements of a breeding program.

Repeat for Credit
N

Typically Offered
Fall

ASI 749 - Advanced Animal Breeding

Credits: 3

Application of genetic principles to livestock improvement, selection methods, mating systems, heritability estimates

and methods of analyzing genetic data.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Recommended prerequisite: ASI 500 and three hours in statistics.

Typically Offered
Spring

ASI 776 - Meat Industry Technology

Credits: 3

Apply concepts and information about meat composition, product safety and spoilage, quality; formulation, processing and evaluation of cured, pre-cooked, and sausage packaging, troubleshooting, and plant organization.

Note
This is a web-based lecture class intended for distance education students.

Repeat for Credit
N

Requisites
Prerequisite: ASI 350.

Typically Offered
Fall, Spring, Summer

ASI 777 - Meat Science and Muscle Biology

Credits: 3

An in depth-overview of the conversion of muscle to meat as well as the impact of inherent characteristics of muscle on fresh meat quality. The fundamental concepts in the course will be discussed with an application to industry standards.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 350; senior or graduate standing.

Typically Offered
Fall

ASI 799 - Graduate Internship in Animal Sciences and Industry

Credits: 1-4

In-depth work-study experiences on beef cattle, sheep, dairy cattle, swine, horse or poultry production operations or in animal food products plants.

Repeat for Credit
Y

Requisites
Prerequisite: Permission of supervising faculty member.

Typically Offered
Fall, Summer

ASI 802 - Gametes, Embryos, and Stem Cells in Farm Animals

Credits: 2

A study of gametes, embryos, pregnancy, and stem cells in farm species including supporting information from laboratory species and humans. Emphasis will be on the regulation of stem cells, gametes, and embryos and on the conceptus-maternal interactions to establish and maintain pregnancy and program conceptus and postnatal development.

Note
Two hours lecture a week.

Repeat for Credit
Y

Requisites
Prerequisite: BIOCH 521.

Typically Offered
Fall-Odd Years

ASI 810 - History and Perspectives in Animal Breeding and Genetics

Credits: 1

The goal of this course is to provide students with a historical perspective of the discipline of Animal Breeding and Genetics and an appreciation for the contributions of several scientists that have significantly impacted the discipline. Weekly lectures will consist of pre-recorded interviews with scientists that have had an international impact in the field of animal breeding and genetics.

Repeat for Credit
Y

Typically Offered
Fall

ASI 811 - Primer to Quantitative Genetics

Credits: 1

The goal of this course is to provide students with an introduction to the language and basic principles of quantitative genetics. Its purpose is to develop foundational knowledge for students entering a graduate program in animal breeding and genetics. Topics included will be the basic model for quantitative genetics (additive and non-additive genetic effects, including Mendelian sampling, and environmental effects), sources of variation, heritability, family resemblance and repeatability, selection response, and family selection. Expected values and concepts in applied statistics (e.g., linear regression) will also be considered.

Repeat for Credit
N

Typically Offered
Spring

ASI 812 - Selection Index Theory and Application

Credits: 1

The overall goal of this course is to increase your skills and knowledge related to the design of animal breeding programs. The focus will be on the application of index theory to the definition of breeding objectives in animal agriculture. The course will also introduce approaches for deriving economic weights, which are useful when predicting economic response to selection.

Repeat for Credit
N

Typically Offered
Spring

ASI 813 - Economic Breeding Programs

Credits: 1

The primary goal of this course is to provide a survey of methodology for developing an economic basis for multiple trait selection to improve the profitability of production. Much of the material is abstracted from the scientific literature, from which a sampling of relevant references will be provided. Therefore, an overarching goal of this course is to instill the capacity to critically analyze relevant literature as an aid to solving future problems. Specific topics included are: a review of concepts relevant to selection index, an introduction to the concept of systems analysis, linear programming, and simulation with emphasis on economic values useful for selection index.

Repeat for Credit
N

Typically Offered
Spring

ASI 814 - Heterosis and Crossbreeding Systems

Credits: 1

The goal of this course is to provide students with an introduction to the principles of heterosis and mating systems utilizing crossbreeding. Students completing this course should be able to evaluate and compare various crossbreeding mating schemes through predicted performance of the potential progeny and overall system performance.

Repeat for Credit
N

Typically Offered
Spring

ASI 815 - Application of Quantitative Genetics in R Software

Credits: 1

Introduction and application of R software for basic and intermediate tasks in quantitative genetic analyses. The use of R as a high-level programming language and a gateway for more formal low-level languages. No prior exposure to the language is necessary.

Repeat for Credit
N

Typically Offered
Spring

ASI 820 - Rumen Metabolism

Credits: 3

Metabolism, absorption, digestion, and passage of nutrients in the rumen; factors affecting the environment of the rumen; certain aspects of rumen function and dysfunction; techniques used in rumen research.

Note
Three one-hour lecture A week.

Repeat for Credit
Y

Requisites
Prerequisite: ASI 318 and BIOCH 521 or BIOCH 755.

Typically Offered
Spring-Even Years

ASI 825 - Stress Physiology of Livestock

Credits: 3

Integrative physiology of livestock during environmental, management, and pathological stresses.

Note
Three hours lecture a week.

Repeat for Credit
Y

Requisites
Prerequisite: ASI 533 and BIOCH 521.

Typically Offered
Fall-Even Years

ASI 826 - Nutritional Physiology

Credits: 3

The course focuses on the structures and function of the gastrointestinal tract, with an emphasis on digestive physiology in the small intestine. Details of gastrointestinal tract secretion, regulation, digestion, and absorption of the major nutrient groups are emphasized with species comparisons.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: BIOCH 521.

Typically Offered
Spring-Odd Years

ASI 830 - Neuroendocrine Physiology

Credits: 1

Neuroendocrine regulation of reproduction, growth, and metabolism, with an emphasis on neuroendocrinology of domestic livestock.

Note
Three hours recitation per week for 5 weeks.

Repeat for Credit
Y

Requisites
Recommended Prerequisite: BIOCH 521 and ASI 710.

Typically Offered
Spring-Odd Years

ASI 831 - Molecular Reproductive Endocrinology

Credits: 1

A study of molecular mechanisms that control gene expression in mammals, with an emphasis on genes and their products that control reproduction.

Note

Three hours recitation per week for 5 weeks.

Repeat for Credit
Y

Requisites
Recommended Prerequisite: BIOCH 521, ASI 710 and ASI 830.

Typically Offered
Spring-Odd Years

ASI 832 - Ovarian Physiology

Credits: 1

Endocrine and physiologic control of ovarian functions in domestic livestock.

Note
Three hours recitation a week for 5 weeks.

Repeat for Credit
Y

Requisites
Recommended Prerequisite: BIOCH 521, ASI 710 and ASI 830.

Typically Offered
Spring-Odd Years

ASI 835 - Advanced Swine Nutrition

Credits: 1

Advanced study of the feeding systems and practices and nutrient requirements for swine for various stages of production. An in-depth analysis of applied swine nutrition.

Note
One hour lecture per week

Repeat for Credit
N

Requisites
Prerequisite: ASI 679 or concurrent enrollment

Typically Offered
Fall

ASI 840 - Techniques in Domestic Animal Behavior

Credits: 2

A combined seminar and laboratory type course. Current and classical studies reported and discussed, relationships between behavior and other disciplines explored and methods of data collection examined. Small-scale demonstration experiments planned, executed and reported orally and/or in scientific written style.

Note
One hour recitation and two hours lab a week.

Repeat for Credit
Y

Requisites
Prerequisite: ASI 655 and STAT 225.

Typically Offered
Spring-Even Years

ASI 860 - Analytical Techniques--Sample Preparation and Beginning Analyses

Credits: 1

Sample collection, processing and handling methodologies will be addressed as they pertain to research methods in the animal sciences. Basic laboratory techniques, sample collection, and analyses of moisture and nitrogen will be covered.

Note
Two hours lecture, eight hours lab and one hour recitation a week for three weeks.

Repeat for Credit
Y

Requisites
Prerequisite: CHM 350.

Typically Offered
Fall

ASI 861 - Analytical Techniques--Mineral Analyses

Credits: 1

This course focuses on the analysis of minerals in common feedstuffs. This course will cover sample preparation and atomic absorption, emission, utraviolet/visible and fluorimetric spectrophotometric methods of analysis of feedstuffs and biological fluids.

Note
Two hours lecture, eight hours lab and one hour recitation a week for three weeks.

Repeat for Credit
Y

Requisites
Prerequisite: CHM 350.

Typically Offered
Fall

ASI 862 - Analytical Techniques--Carbohydrate and Lipid Analyses

Credits: 1

This course covers the analysis of carbohydrate and lipid components of feedstuffs and biological materials using conventional as well as HPLC and gas chromatographic methods.

Note
Two hours lecture, eight hours lab and one hour recitation a week for three weeks.

Repeat for Credit
Y

Requisites
Prerequisite: CHM 350.

Typically Offered
Fall

ASI 863 - Analytical Techniques--Radioisotope Use

Credits: 1

Study of radioisotope use in physiological applications of research in domestic animals including radioactive decay, detection methodology, and isotope dilution.

Note
Two hours lecture, eight hours lab and one hour recitation a week for three weeks.

Repeat for Credit
Y

Requisites
Prerequisite: BIOCH 521.

Typically Offered
Fall-Even Years

ASI 864 - Analytical Techniques-Immunoassays

Credits: 1

Study of measurement of biological substances and hormones utilizing enzyme-linked immunoassays (ELISA) and radioimmunoassays (RIA).

Note
Two hours lecture, eight hours lab and one hour recitation a week for three weeks.

Repeat for Credit
Y

Requisites
Prerequisite: BIOCH 521.

Typically Offered
Fall-Even Years

ASI 865 - Analytical Techniques: Protein Analysis

Credits: 1

The course will provide an overview of techniques commonly used for protein analysis in research using animal tissues. Topics will include protein extraction from tissues, determining protein concentration, types of gel electrophoresis for different protein sizes, Western blotting and proteomics.

Note
Course will be offered the first 3 weeks of the Fall Semester. Components include three 90-minute lectures + one 8-hour laboratory per week.

Repeat for Credit
N

Typically Offered
Fall

ASI 870 - Linear Models in Animal Breeding

Credits: 1

Students completing this course will learn about linear models used in Animal Breeding. These models will be discussed in the context of the random variable that is to be predicted. Specifically, the course will cover animal models, sire/maternal grandsire models, and sire models. Models including a single record, repeated records, and models with both direct and maternal effects will be discussed.

Repeat for Credit
N

Typically Offered
Fall

ASI 871 - Genetic Prediction

Credits: 1

The goal of this course is to increase student understanding of best linear unbiased prediction and to develop skills in genetic prediction. A wide array of material will be covered with emphasis on real-world datasets designed to develop applied analytical skills relative in animal breeding. Topics will include data integrity diagnosis, contemporary grouping strategies, adjusting for known non-genetic effects, and use of software to perform genetic evaluations. Students will develop procedures for the utilization of various sources of information for the calculations of predictions of genetic merit in the form of estimated breeding values.

Repeat for Credit
N

Typically Offered
Fall

ASI 872 - Applied Variance Component Estimation in Livestock Genetics

Credits: 1

The goal of this course is to extend upon content covered in linear models and genetic prediction, with specific emphasis on estimation of (co)variance components and genetic parameters required to solve mixed models typical in livestock genetics. Upon successful completion of this module, students should have an applied knowledge of approaches used to estimate the G and R sub-matrices of the mixed model equations. Several tools will be used to demonstrate the models and approaches most commonly used in parameter estimation. Where appropriate, scientific literature that explains their implementation, and some attributes of the solutions obtained will be used.

Repeat for Credit
N

Typically Offered
Fall

ASI 873 - Prediction and Control of Inbreeding in Breeding Programs

Credits: 1

The goal of this course is for students to be introduced to, and to gain an understanding of, the concepts of inbreeding and genetic diversity, the impact of inbreeding on animal breeding and production populations, and of strategies to control and manage rates of inbreeding in animal breeding and production populations. The use of genomic data to assess and control inbreeding also will be discussed.

Repeat for Credit
N

Typically Offered
Fall

ASI 874 - Marker Assisted and Gene-Assisted Selection

Credits: 1

The goal of this module is to increase student understanding of potential methods for incorporating marker genetic information into selection decisions. Topics will include but are not limited to recombination, single-gene tests, molecular breeding values, suggested producer guidelines for use of the technologies, and incorporation of genomic information into genetic prediction procedures.

Repeat for Credit
N

Typically Offered
Spring

ASI 875 - Introduction to Marker Association Analysis and QTL Detection

Credits: 1

The goal of this course is to introduce the basic concepts of using genetic markers to identify QTL and of estimating marker-trait associations, and to expose students to applications of these methodologies. Materials will cover the basics of linkage and linkage disequilibrium, alternate designs or population structures for QTL mapping, and statistical methods for QTL detection, including QTL interval mapping and genome-wide association analyses. Properties, advantages, disadvantages, and requirements of alternate designs and analysis strategies will be discussed.

Repeat for Credit
N

Typically Offered
Spring

ASI 876 - From Markers to Gene Function: Functional Change

Credits: 1

This course takes the results from association analyses and learns how these markers translate into functional changes in the animal genome and in animal performance. Topics covered in the course include an introduction to the tools used to generate genomic data followed by introduction and application of key bioinformatics websites, databases to identify causative genetic variation, and develop gene pathways and networks.

Repeat for Credit
N

Typically Offered
Spring

ASI 877 - MCMC Methods in Animal Breeding: A Primer

Credits: 1

The goal of this course is to introduce computational techniques based on simulation that have become a staple in the field of animal breeding (and beyond) over the last 20 years. An overview of the most popular Monte Carlo methods will be provided to the students with an emphasis on hands on reproducible examples developed through the R software. Minimal exposure to the R programming language will be required while no previous exposure to Monte Carlo methods is required. While a few examples in the class will be set in a Bayesian framework, no previous exposure to Bayesian statistics is required

Repeat for Credit
N

Typically Offered
Spring

ASI 879 - Applications in Swine Nutrition

Credits: 2

Application of key principles of swine nutrition relating to nutrients, requirements and feeding programs for pigs of various stages of production.

Note
Two hours lecture per week.

Repeat for Credit
N

Requisites
Recommended ASI 835

Typically Offered
Spring-Even Years

ASI 890 - Graduate Seminar in Animal Sciences and Industry

Credits: 1

Discussion of research and technical problems in the discipline. Attendance required of all departmental graduate students. Maximum of two hours may be applied toward an advanced degree.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ASI 898 - Master's Report

Credits: 2

A written report of either research or problem work on a topic in the major field.

Note
Consult major professor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ASI 899 - Master's Research in Animal Sciences and Industry

Credits: 1-18

Research leading to the completion of a master's thesis.

Note
Consult major professor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ASI 902 - Topics in Animal Science

Credits: 1-6

Discussion and lectures on important areas and contributions in the field of animal science not covered in present courses.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ASI 920 - Energy Utilization in Domestic Livestock

Credits: 2

Comprehensive discussion of the development and application of energy systems used to guide livestock feeding, procedures used in energy experimentation, dietary/digestive/environmental factors that influence efficiency of energy utilization, and the efficiencies with which different energy substrates are used to support various maintenance and production functions. Emphasis will be placed upon ruminants.

Note
Two hours lecture a week.

Repeat for Credit
Y

Requisites
Prerequisite: BIOCH 521.

Typically Offered
Fall-Odd Years

ASI 921 - Protein and Amino Acid Utilization in Domestic Livestock

Credits: 2

Comprehensive discussion of protein and amino acids and their role in digestion, absorption, metabolism, protein synthesis, and degradation in livestock. Emphasis on techniques and interpretation of results from experiments designed to evaluate protein utilization and factors which influence amino acid metabolism in monogastrics and ruminants.

Note
Two hours lecture a week.

Repeat for Credit
Y

Requisites
Prerequisite: ASI 820 or ASI 826.

Typically Offered
Fall-Even Years

ASI 923 - Vitamin and Mineral Nutrition of Domestic Livestock

Credits: 2

A detailed examination of the vitamin and mineral nutrition of domestic livestock. Emphasis will be placed on current literature on the determination of vitamin and mineral requirements, practical considerations for vitamin and

mineral supplementation in livestock feeding, and the potential for vitamin and mineral deficiency and toxicity in domestic livestock.

Note
One hour lecture and two hour lab a week.

Repeat for Credit
Y

Requisites
Prerequisite: ASI 820 or ASI 826.

Typically Offered
Spring-Even Years

ASI 925 - Rumen Microbiology

Credits: 3

Three hours lecture a week dealing with the microorganisms of the rumen, their habitat, diversity, structure, interactions, and biochemical activities. Techniques for enumeration, isolation and identification of ruminal microorganisms.

Repeat for Credit
Y

Requisites
Prerequisite: BIOL 255.

Typically Offered
Spring-Odd Years

ASI 930 - Advanced Meat Science

Credits: 3

Basic biochemical, physiological, and histological properties of muscle and related tissues; muscle contraction, rigor mortis, and muscle hydration; maturation; processing by thermal, dehydration, and cold sterilization techniques; meat flavor chemistry; meat research techniques.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ASI 777 or equiv.; and a course in biochemistry.

Typically Offered
Spring-Even Years

ASI 961 - Graduate Problem in Animal Sciences and Industry

Credits: 1-18

In-depth study of a topic supervised by a member of the graduate faculty.

Note
Permission of supervising faculty member.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ASI 990 - Seminar in Animal Sciences Research

Credits: 1

Weekly evaluation of the scientific literature and the reasoning underlying the selection of research problems, the formulation and testing of hypotheses, and the evaluation and presentation of results.

Note
Approval of major professor.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ASI 999 - Doctoral Research in Animal Sciences and Industry

Credits: 1-18

Research leading to the completion of a Ph.D. Degree.

Note
Consult major professor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ASMS 120 - Intro to Food and Feed Manufacturing Employee Safety

Credits: 1

This course introduces students to the fundamental principles of employee safety in food and feed manufacturing environments. Students will learn about workplace hazards, safety protocols, and regulatory requirements designed to protect workers from injury and illness. The course covers essential topics such as personal protective equipment (PPE), machine safety, chemical handling, and emergency procedures. By the end of the course, students will understand how to create and maintain a safe working environment in compliance with industry safety standards.

Repeat for Credit
N

Typically Offered
Fall

ASMS 213 - Emerging Technologies in Power, Structural, and Technical Systems

Credits: 1

The continual evolution of the agricultural mechanics industry, necessitates the introduction of emerging practices and equipment to new teachers. The course includes demonstrations, hands-on activities, and field trips to be used in high school programs.

Note
One hour of lecture and two hours of laboratory each week for 8 weeks.

Repeat for Credit
N

Requisites
Prerequisite: Agricultural Education Majors only

Typically Offered
Spring

ASMS 214 - Agricultural Engine Systems

Credits: 1

Theory, knowledge and skills necessary for the repair and maintenance of small gas engines. Special focus on the teaching of engine systems and management of laboratory instruction.

Note
One hour of lecture and two hours of laboratory each week for 8 weeks.

Repeat for Credit
N

Requisites
Prerequisite: Agricultural Education majors only.

Typically Offered
Fall

ASMS 215 - Agricultural Electrical Systems

Credits: 1

Theory and practice of electrical wiring systems used in agricultural settings. Special focus on the teaching of electrical systems.

Note
One hour of lecture and two hours of laboratory each week for 8 weeks.

Repeat for Credit
N

Requisites
Prerequisite: Agricultural Education Majors only.

Typically Offered
Spring

ASMS 216 - Agricultural Structures Education

Credits: 1

Theory, knowledge and skills for construction/fabrication in agricultural structure projects. Emphasis on: laboratory safety, measurements, material selection, basic techniques, plumbing, and basic surveying.

Note
One hour of lecture and two hours of laboratory each week for 8 weeks.

Repeat for Credit
N

Requisites
Prerequisite: Agricultural Education majors only.

Typically Offered
Fall

ASMS 220 - Employee Safety in Grain Handling Facilities

Credits: 1

This course focuses on employee safety in grain handling facilities, addressing the unique hazards associated with grain storage, transport, and processing. Students will learn about the risks of grain dust explosions, confined space entry, machine safety, and proper use of personal protective equipment (PPE). The course covers safety protocols, emergency procedures, and regulatory standards specific to grain handling operations. By the end of the course, students will be equipped to identify hazards and implement safety measures to ensure a safe working environment in grain facilities.

Repeat for Credit
N

Requisites
Corequisite: ASMS 120

Typically Offered
Fall

ASMS 221 - Safety Applications Practicum

Credits: 1

This course offers a hands-on, applied learning experience focused on employee safety in grain handling and food and feed manufacturing facilities. Students will actively engage in safety assessments, hazard identification, and the implementation of safety protocols, including proper use of personal protective equipment (PPE), confined space entry procedures, and machine safeguarding. The course provides practical, real-world training in safety compliance, risk mitigation, and emergency response. By the end of the course, students will have gained valuable experience in applying safety practices to maintain safe working environments in high-risk industrial settings.

Repeat for Credit
N

Requisites
Corequisite: ASMS 220

Typically Offered
Fall

ASMS 260 - Agricultural Metal Processes Education

Credits: 3

Provide students with the theory, knowledge and skills necessary for the construction/fabrication of metal projects. Emphasis will be placed on: laboratory safety, general laboratory measurements, metal identification/ characteristics, oxyacetylene welding and cutting, shielded metal arc welding (SMAW), gas metal arc welding (GMAW), gas tungsten arc welding (GTAW), plasma cutting, and project construction.

Note
Two hours of lecture and three hours of laboratory each week.

Repeat for Credit
N

Requisites
Prerequisite: Agricultural Education majors only.

Typically Offered
Fall, Spring

ASMS 421 - Agricultural and Occupational Safety Program Management

Credits: 3

Addresses the development and administration of comprehensive safety, health, and environmental management programs in agriculture and industry.

Repeat for Credit
N

Requisites
Junior or Senior standing

Typically Offered
Fall

ASMS 422 - Environmental Regulatory Compliance

Credits: 3

Surveys requirements of air, land, and water regulations as they relate to agribusiness and industry. Focuses on practical applications in the work environment such as identification of pollution sources, evaluation strategies, engineering controls, permitting processes, and reporting.

Repeat for Credit
N

Requisites
Junior or Senior standing

Typically Offered
Spring

ASMS 423 - Agricultural and Occupational Safety I

Credits: 3

Examines traumatic injuries and their control in agricultural and industrial settings, with a focus on structural safety, walking and working surfaces, falls, electrical safety, and safety for livestock handlers.

Repeat for Credit
N

Requisites
Junior or Senior standing

Typically Offered
Fall

ASMS 424 - Agricultural and Occupational Health I

Credits: 3

Investigates chemical health hazards and their control in the context of agriculture and industry. Topics include hazardous gases, vapors, and aerosols; dermal hazards; pesticides; exposures to veterinary pharmaceuticals; methods of hazard assessment; and methods of control.

Repeat for Credit
N

Requisites
Junior or Senior standing

Typically Offered
Fall

ASMS 453 - Agricultural and Occupational Safety II

Credits: 3

Explores agricultural and industrial traumatic injuries involving machine hazards; materials handling and storage; confined spaces; fire protection and prevention; and pressurized vessels, fluids, and environments.

Repeat for Credit
N

Requisites
Junior or Senior standing

Typically Offered
Spring

ASMS 454 - Agricultural and Occupational Health II

Credits: 3

Analyzes occupational health hazards and controls in agricultural and industrial settings, with a focus on biological hazards, ergonomic stressors, and physical hazards (including noise, vibration, extreme temperatures, and radiation).

Repeat for Credit
N

Requisites
Junior or Senior standing

Typically Offered
Spring

ASMS 486 - Topics in Agricultural and Occupational Safety and Health

Credits: 0-6

Examination of current topics in agricultural and occupational safety and health.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ASMS 496 - Problems in Agricultural and Occupational Safety and Health

Credits: 1-3

Independent guided studies in any of the many fields associated with agricultural and occupational safety and health.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

ASMS 511 - Occupational and Agricultural Health

Credits: 3

Addresses the identification, evaluation, and control of health hazards in occupational and agricultural settings. Topics include occupational toxicology, air contaminants, noise, radiation, thermal stress, ergonomics, biological hazards, emerging health risks, and health risks of special populations.

Note
This is an online course.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing or above

Typically Offered
On sufficient demand

ASMS 512 - Occupational and Agricultural Injury Prevention

Credits: 3

Explores traumatic injuries and their prevention in occupational and agricultural settings. Topics include falls, workplace violence, animal handling, mobile equipment, fixed machines, work tools, electrical hazards, fires, and explosions.

Note
This is an online course.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing or above

Typically Offered
On sufficient demand

ASMS 521 - Occupational and Agricultural Safety and Health Interventions

Credits: 3

Examines the design and evaluation of behavioral interventions to prevent occupational and agricultural injuries and illnesses. Topics include theories of safety and health behavior; effective communication and persuasion strategies; planning, conducting and evaluating interventions; interventions for diverse populations; and intervention strategies in evolving occupational and societal contexts.

Note
This is an online course.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing or above

Typically Offered
On sufficient demand

ASMS 721 - Agricultural and Occupational Safety Program Management

Credits: 3

Addresses the development and administration of comprehensive safety, health, and environmental management programs in agriculture and industry.

Repeat for Credit
N

Requisites
Prerequisite: Graduate or junior or senior level students

Typically Offered
Fall

ASMS 722 - Environmental Regulatory Compliance

Credits: 3

Surveys requirements of air, land, and water regulations as they relate to agribusiness and industry. Focuses on practical applications in the work environment such as identification of pollution sources, evaluation strategies, engineering controls, permitting processes, and reporting.

Repeat for Credit
N

Requisites
Prerequisite: Graduate or junior or senior level students

Typically Offered
Spring

ASMS 723 - Agricultural and Occupational Safety I

Credits: 3

Examines traumatic injuries and their control in agricultural and industrial settings, with a focus on structural safety, walking and working surfaces, falls, electrical safety, and safety for livestock handlers.

Repeat for Credit
N

Requisites
Prerequisite: Graduate or junior or senior level students

Typically Offered
Fall

ASMS 724 - Agricultural and Occupational Health I

Credits: 3

Investigates chemical health hazards and their control in the context of agriculture and industry. Topics include hazardous gases, vapors, and aerosols; dermal hazards; pesticides; exposures to veterinary pharmaceuticals; methods of hazard assessment; and methods of control.

Repeat for Credit
N

Requisites
Prerequisite: Graduate or junior or senior level students

Typically Offered
Fall

ASMS 753 - Agricultural and Occupational Safety II

Credits: 3

Explores agricultural and industrial traumatic injuries involving machine hazards; materials handling and storage; confined spaces; fire protection and prevention; and pressurized vessels, fluids, and environments.

Repeat for Credit
N

Requisites
Prerequisite: Graduate or junior or senior level students

Typically Offered
Spring

ASMS 754 - Agricultural and Occupational Health II

Credits: 3

Analyzes occupational health hazards and controls in agricultural and industrial settings, with a focus on biological hazards, ergonomic stressors, and physical hazards (including noise, vibration, extreme temperatures, and radiation).

Repeat for Credit
N

Requisites
Prerequisite: Graduate or junior or senior level students

Typically Offered
Spring

ATHM 101 - Varsity Baseball

Credits: 1

Varsity Baseball

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ATHM 102 - Varsity Basketball

Credits: 1

Varsity Basketball

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

ATHM 103 - Varsity Track Instructor

Credits: 1

Varsity Track Instructor

Note
Consent of instructor

Repeat for Credit
N

Typically Offered
Spring

ATHM 104 - Varsity Football

Credits: 1

Varsity Football

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

ATHM 105 - Varsity Golf

Credits: 1

Varsity Golf

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

ATHM 108 - Varsity Track

Credits: 1

Varsity Track

Repeat for Credit
Y

Typically Offered
Spring

ATHW 150 - Intercollegiate Basketball

Credits: 1

Intercollegiate Basketball

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

ATHW 152 - Intercollegiate Track

Credits: 1

Intercollegiate Track

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

ATHW 154 - Intercollegiate Tennis

Credits: 1

Intercollegiate Tennis

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

ATHW 155 - Intercollegiate Volleyball

Credits: 1

Intercollegiate Volleyball

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Spring

ATHW 156 - Intercollegiate Rowing

Credits: 1

Intercollegiate Rowing

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall

ATHW 157 - Intercollegiate Golf

Credits: 1

Intercollegiate Golf

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

ATHW 158 - Intercollegiate Soccer

Credits: 1

Intercollegiate Soccer

Repeat for Credit
Y

Typically Offered
Other

ATM 101 - Introduction to Biological and Agricultural Engineering and Technology

Credits: 1

Introduction to discipline, department, university, and profession. Exploration of career options. Gain skills through application-oriented problem solving.

Note
One hour recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: Open to ATM majors only.

Typically Offered
Fall

Cross-listed
BAE 101

ATM 160 - Engineered Systems and Technology in Agriculture

Credits: 3

An introductory course designed for non-engineering majors. This course introduces engineering principles and problem solving associated with energy resources and power systems for agriculture, machinery systems, natural resources and environmental management, and food and fiber processing and storage.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: Not open to seniors.

Typically Offered
Fall

ATM 240 - Principles of Injury Prevention

Credits: 3

This is an overview course that will cover a variety of safety and health topics focusing on injury prevention in the home, motor vehicle, public, and work environments. The enduring understanding that forms the basis for every discussion and activity in this course is all of us make decisions every day that impact our safety as well as the safety of those around us.

Note
Three hours lecture a week.

Repeat for Credit
N

Typically Offered
Fall

ATM 245 - Introduction to Biomanufacturing Technology

Credits: 3

History of biomanufacturing technology and its impact; overview of related industries including biopharmaceuticals, cellular agriculture, precision fermentation, and brewing; careers; fundamentals of biomanufacturing processes including cell types, gene technology, and unit operations.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198 or CHM 210 or BIOCH 265.

Typically Offered
Fall, Spring

ATM 250 - Chemical Application Systems

Credits: 2

Systems, components, operation practices, and safety procedures used in the chemical application industry. Liquid and granular application systems and respective components will be studied along with procedures for equipment sizing and maintenance, minimizing drift, systems calibration, and safe handling, transporting, storage, disposal and spill clean-up of agrichemicals.

Note
Two hours lecture a week.

Repeat for Credit
N

Typically Offered
Spring

ATM 251 - Chemical Application Systems Laboratory

Credits: 1

Laboratory and hands-on activities on pumps, valves, nozzles, drift measurement, and application technology used in the home and garden, turf, private and commercial agricultural, aerial, and research industries.

Note
Two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Must be taken concurrent with ATM 250.

Typically Offered
Spring

ATM 331 - Professional Practice for Agricultural Technology Managers

Credits: 1

A preparatory course for ATM Capstone Project course to explore project ideas, build project teams, and chose a project to complete for the capstone project in the following semester. Topics include professionalism, project management, intellectual property, organizational behavior and ethics.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Spring

ATM 340 - Occupational Safety

Credits: 3

This is a survey course that identifies safety and health risks in industrial work environments. The enduring understanding that forms the basis for every discussion and activity in this course is as a manager or supervisor; you are responsible for the safety of all employees under you.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ATM 240.

Typically Offered
Spring

ATM 345 - Cell Culture Technology in Biomanufacturing

Credits: 3

Cell culture and fermentation technology in biomanufacturing including media optimization, cell types and growth, mass balance concepts, selection of bioreactor and operational modes for microbial fermentation and mammalian cell cultures.

Repeat for Credit
N

Requisites
Prerequisites: MATH 150 or MATH 205 or MATH 220, BIOL 198 or CHM 210 or BIOCH 265.

Recommended Foundation Course: ATM 245

Typically Offered
Fall

ATM 370 - Biorenewable Systems

Credits: 3

Converting biorenewable resources into bioenergy and bio-based products. Biorenewable concepts as they relate to drivers of change, feedstock production, processes, products, co-products, economics, transportation/logistics, and marketing.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ECON 110, MATH 100, CHEM 210.

Typically Offered
Fall

ATM 445 - Separation Technologies for Biomanufacturing

Credits: 3

Overview of separation technologies used in biomanufacturing facility including purification, principles of operations used for purification and polishing of active product ingredients such as proteins and peptides, common impurities and removal strategies, process integration, and risk management.

Repeat for Credit
N

Requisites
Prerequisite: MATH 150 or MATH 205 or MATH 220, BIOL 198 or CHM 210 or BIOCH 265.
Recommended: ATM 245 and/or ATM 345
Not available for credit for students with BAE 626 or CHE 626

Typically Offered
Spring

ATM 446 - Regulatory Affairs for Biomanufacturing

Credits: 1

Regulations and compliance for the biomanufacturing industry in the United States with a focus on biologics. Topics include regulatory framework, quality assurance procedures in a biomanufacturing facility (GLP and cGMP), preparation for regulatory inspection and facility audit.

Repeat for Credit
N

Requisites
Prerequisite: ATM 245

Typically Offered
Spring

ATM 450 - Sensors and Controls for Agricultural and Biological Systems

Credits: 3

Applications of instrumentation. Sensors used in agricultural machines and processes for measurement of voltage, force, torque, pressure, displacement, velocity, acceleration, flow, temperature, humidity, etc. Analog and digital signal conditioning and processing. Feedback controls concept. Computer interface.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 113 or PHYS 115, ATM 160 or MATH 100.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ATM 455 - Engines and Power Transfer

Credits: 3

Principles, operation, and analysis of engine thermodynamics, fuel and combustion, engine components, engine cycles, engine power transfer and efficiencies, and exhaust gas emissions. Selection of bearings and design of belt, chain, gear, and shaft drives. Operation and performance analysis of hydraulic power components and systems, fluid mechanics, and hydraulic motors.

Note
Three hours recitation a week. Students cannot take ATM 455 in place of BAE 450 to fulfill requirements.

Repeat for Credit
N

Requisites
Prerequisite: BAE 350.

Typically Offered
Spring

ATM 460 - Internship in Agricultural Technology Management

Credits: 1-3

Intern programs in agricultural technology management.

Note
One hour of credit for each four weeks of supervised and

evaluated off-campus work experience with cooperating employers. A maximum of 3 hours may be applied to a BS in agricultural technology management.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall

ATM 497 - Agricultural Technology Management

Credits: 0-3

Undergraduate research experience for agricultural technology managment students.

Note
Instructor approval.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ATM 511 - Agricultural Building Systems

Credits: 3

Environmental control systems for agricultural buildings; structural members and systems for agricultural buildings; farmstead planning concepts.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ATM 160 or PHYS 113 or PHYS 115.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ATM 515 - Emerging Topics in Agricultural Technology Management

Credits: 2-3

Topics in the application of technical principles to agricultural technology management offered through collaborative distance education programs such as AG*IDEA.

Note
Approval of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ATM 536 - Agricultural Technology Management Capstone Project I

Credits: 3

A team-oriented laboratory for Agricultural Technology Management students to complete an open-ended project related to the management of technology in agriculture.

Note
Students that take ATM 536 as a requirement for their ATM degree cannot take take BAE 536 later for an elective credit.

Repeat for Credit
N

Requisites
Prerequisites: ATM 331 and senior standing in ATM program.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

ATM 540 - Introduction to Food Engineering

Credits: 3

Material and energy balances with application to food processing. Fluid flow and heat transfer in food processing. Thermodynamic properties and laws. Conc. enrollment in

ATM 541 is urged.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 113 or 115, BIOCH 120 or CHM 190, MATH 210 or 205.

Typically Offered
Fall

ATM 541 - Introduction to Food Engineering Laboratory Exercises

Credits: 1

Laboratory experiments supplementing ATM 540.

Note
Three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: ATM 540.

Typically Offered
Fall

ATM 545 - Processing and Storage of Grains

Credits: 3

Principles of mass and energy balances, materials handling, along with the drying, storage, and bioprocessing of grains and biomass.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ATM 160 and PHYS 113

Typically Offered
Spring-Even Years

ATM 550 - Precision Agriculture Technologies

Credits: 3

Application of precision technologies for gathering information to assist decision making for production systems. Topics will include global positioning systems, vehicle guidance systems, crop yield monitors, variable rate control systems for applicators, and the communication among these devices.

Note
Two hours recitation and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 150 or equivalent, PHYS 113 or PHYS 115, and STAT 225 or STAT 240 or STAT 250.

Typically Offered
Fall

ATM 558 - Hydrology and Soil Erosion Management

Credits: 3

Covers the water cycle and watershed hydrology, with an emphasis on precipitation, evapotranspiration, runoff, soil water movement, and aquifers; Soil erosion and water quality concerns; Engineered conservation practices to manage runoff, erosion, and water shortage issues; Site assessment techniques including surveying, mapping, watershed delineation, and data collection and analysis.

Note
Three hours recitation a week

Repeat for Credit
N

Requisites
Prerequisite: AGRON 205.

Typically Offered
Spring

ATM 610 - Problems in Agricultural Technology Management

Credits: 1-3

Current and advanced problems in agricultural technology management.

Note
No more than 3 hours of ATM 610 can be applied to the degree. Instructor approval.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ATM 620 - Topics in Agricultural Technology Management

Credits: 1-3

Topics for the understanding, management, or application of emerging technologies in agricultural systems. Topics announced when offered.

Note
Instructor approval.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ATM 636 - Agricultural Technology Management Capstone Project II

Credits: 1-3

A continuation of ATM 536. Completion of a team-oriented capstone project, with emphasis on implementation, evaluation, documentation, and presentation of the project.

Repeat for Credit
N

Requisites
Prerequisite: ATM 536 or instructor permission

Typically Offered
Spring

ATM 653 - Water Management and Irrigation Systems

Credits: 2

Management of water in crop production systems, crop water use, and irrigation scheduling. Fundamentals of water flow in pipe networks, pumping plants, and irrigation systems.

Note
Two hours recitation.

Repeat for Credit
N

Requisites
Prerequisite: ATM 558.

Typically Offered
Fall

ATM 654 - Water Management and Irrigation Systems Lab

Credits: 1

Laboratory and hands-on activities on soil water balance characteristics, crop water use, water flow in pipe networks, pump hydraulics, sprinkler nozzles, drip irrigation systems, water filtration systems, and chemigation systems.

Note
Three hour lab each week.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: Must be taken after or concurrent with ATM 653, and junior standing or higher.

Typically Offered
Fall

ATM 661 - Watershed Assessment and Management

Credits: 3

Overview of water legislation and policies (e.g. Clean Water Act, NPDES, TMDL). Principles of watershed

pollutant sources, fate, and transport. Impacts of watershed protection and restoration strategies on water and environmental quality.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 110 or CHM 210 and BIOL 198.

Typically Offered
Fall

ATM 702 - Topics in Agricultural Technology

Credits: 1

The selection, operational theory, repair, maintenance, adjustment, and application of equipment and materials for agricultural systems.

Note
Instructional materials, teaching aids and advanced methodology will be developed with respect to the topic.

Repeat for Credit
Y

Requisites
Prerequisite: ATM 659.

Typically Offered
Fall, Spring

AVM 101 - Introduction to Aircraft Materials and Tooling Standards

Credits: 2

Skills and techniques essential to understanding aircraft material properties and fabrication techniques. Emphasizes knowledge and practical experiences involving: shop safety, organization and human factors associated with shop practices, basic aircraft structural materials and hardware familiarization, fluid lines and fittings, hand tool selection and use, and aviation-specific dimensional inspection tools and techniques, aircraft hardware identification and applications, cleaning and corrosion control, aircraft metal selection an applications, and aircraft material inspection fundamentals.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

AVM 102 - Aviation Regulations, Compliance and Operations

Credits: 2

A review of the role and organizational structure of the Federal Aviation Administration (FAA) as it relates to the certification and continued airworthiness of aircraft and its operation in general, business, and commercial aviation environments. Emphasis on the privileges and limitations of certificated personnel who maintain aircraft systems in the context of the FAA regulations. Includes practical applications of aircraft weight and balance, effective completion of maintenance record entries, accurate use of graphs and charts to determine critical performance values, and the servicing, staring, ground operations, and security of aircraft. Students demonstrate the ability to read, comprehend, and apply information contained in FAA and manufacturers' aircraft maintenance specifications, data sheets, manuals, publications, and related Federal Aviation Regulations, Airworthiness Directives, and Advisory material.

Note
Two hours lecture

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

AVM 103 - Intro to Aircraft Materials and Tooling Standards Laboratory

Credits: 1

A laboratory course to supplement the material of AVM 101.

Note
Three hours lab a week.

Repeat for Credit
N

Requisites
Corequisite: AVM 101

Typically Offered
Fall, Summer

AVM 111 - Basic Aircraft Electricity

Credits: 4

A basic concept of DC/AC circuits, with basic laws relating to the following: measuring voltage, current, resistance, continuity and leakage; relationship of voltage, current and resistance in electrical circuits; reading and interpretation of electrical circuit diagrams; electrical devices and inspection and servicing of batteries. Introduction to digital numbering systems and digital logic functions.

Note
Three hours lecture and two hour lab a week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 112 - Aircraft Welding

Credits: 2

Theory and skill development in aircraft welding processes. Exercises in gas welding processes as applied to ferrous and nonferrous materials. Oxygen/acetylene, inert gas, and resistance welding processes are to be studied.

Note
One hour recitation and three hours lab a week.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Natural and Physical Sciences

AVM 121 - Aircraft Drawings

Credits: 2

Students learn how to read, understand, and interpret aircraft drawings commonly found in the aviation maintenance industry. Recognition and identification of drawing lines and symbols, and the meaning of these is covered.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Empirical and Quantitative Reasoning

AVM 131 - Aircraft Standards

Credits: 4

A survey of the organization of the Federal Aviation Administration. Emphasis will be placed on regulations, standards, specifications, procedures and the practice of using charts, graphs and drawings. Also included are the introduction to air transport maintenance procedures, weight and balance procedures, aircraft ground operations and the introduction to flight training to include several flights.

Note
Flight lab fees required.

Two hours lecture and six hours of lab a week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

AVM 132 - Aircraft Fluid Power

Credits: 3

A study of basic fluid mechanics as it applies to practical applications in aircraft systems. Compressible and incompressible fluid systems will be studied.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 141 - Aircraft Science

Credits: 3

This is a study of basic physics as required by aircraft technicians and defined by FAR 147. Use and understand the principles of simple machines, sound, fluid, and heat dynamics, basic aerodynamics, aircraft structures, and theory of flight.

Note
Three hours recitation and two hours of lab per week.

Repeat for Credit
N

Requisites
Corequisite: Math 100

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 142 - Airframe Systems

Credits: 4

A study of the airframe systems and components to include: pressurization, heating and cooling, and structural device.

Note
Two hours lecture and six hours lab a week.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 151 - Aviation Maintenance Fundamentals

Credits: 3

This course is designed to permit the student to learn and practice those skills and techniques essential to the career development of the aviation maintenance technician. The subjects included are: shop safety, aircraft general familiarization, fluid lines and fittings, hand tools and measuring devices, aircraft hardware, cleaning and corrosion control, aircraft metals, inspection fundamentals, ground operation and servicing, and support equipment.

Note
One hour recitation and six hours lab a week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

AVM 152 - Airframe Structures and Repair

Credits: 5

A study of materials commonly used in airframe structures and the associated study of making structural repairs according to recommended procedures. Skills in sheet metal are stressed.

Note
Three hours recitation and six hours lab a week.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 162 - Airframe Electrical Systems

Credits: 4

An advanced study of DC/AC circuits law relating to circuit analysis and a detailed study of measuring instruments. Advanced study of relays, switches, alternators, and other devices encountered in circuit analysis, troubleshooting, and repair. Theory of operation and fault isolation on solid-state devices in aircraft circuitry. Inspection of aircraft electrical systems, including wire inspections and the types of repairs allowed, using appropriate technical manuals.

Note
Two hours lecture and six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AVM 111 or ECET 100.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 201 - Aircraft Metallic Primary Structures

Credits: 3

A study of aircraft metal primary structures and materials commonly used in the design and construction of airframes including fuselages, wings, and control surfaces. Students gain theoretical knowledge and practical experience associated with the structural properties of materials used in the manufacturing process as well as the methods used to fabricate and repair those structures. Students practice structural metal repairs according to FAA approved data and manufacturer's recommended procedures. Skills in aluminum sheet metal fabrication and repairs are stressed.

Note
Two hours lecture and four hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AVM 101 and AVM 103 or MET 121.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 203 - Aircraft Environmental and Fire Protection Systems

Credits: 2

An in-depth study in small and large air vehicle environmental and fire detection and extinguishing systems. Emphasis on cabin pressurization and temperature climate control, supplemental oxygen, airframe and propulsion fire detection and extinguishing systems, crew visibility enhancement, and air toxicity detection. Students gain extensive practical experiences related to system design, operation, inspection, maintenance methodology, and fault analysis for both airframe and powerplant systems using manufacturer's technical instructions.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 204 - Aircraft Environmental and Fire Protection Systems Laboratory

Credits: 1

A laboratory course to supplement the material of AVM 203.

Note
Three hours lab a week.

Repeat for Credit
N

Requisites
Corequisite: AVM 203

Typically Offered
Spring

AVM 205 - Aircraft Landing Gear and Fluid Power Systems

Credits: 3

A study of the design and application of compressible and incompressible fluid power systems used in both simple and complex aircraft flight control, auxiliary, emergency, and landing gear systems. Emphasis on landing gear and deceleration systems to include components, structures, operation, and fault analysis of shock struts, position and warning, single and multiple disk brakes, anti-skid, wheel assemblies, retraction and extension systems and methods of emergency landing gear extension. Topics include landing gear door operation and sequencing. Students practice inspection, servicing, repair and troubleshooting of key fluid power and landing gear systems necessary to ensure continued airworthiness of these systems.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 207 - Aircraft Electrical Systems

Credits: 3

A review and advanced study of DC/AC circuits, and laws relating to circuit analysis and a detailed study of measuring instruments applied to aircraft. Study of relays, switches, alternators, and other devices encountered in circuit analysis, troubleshooting, and repair. Theory of operation and fault isolation on solid-state devices in aircraft circuitry. Inspection of aircraft electrical systems, including wire inspections and the types of repairs allowed using appropriate technical manuals. A study of battery, magneto high and low tension ignition systems, including turbine igniters. Also a study of powerplant starting ad charging systems and related components. Emphasis on effective fault diagnostics, repair, and timing of aircraft ignition systems.

Note
Two hours of lecture and 4 hours of lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECET 100 or AVM 111.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 214 - Introduction to Aircraft Propulsion Theory, Design and Systems

Credits: 3

A broad introductory study in the theory of operation of heat engines utilizing principles of the Otto and Brayton cycles found in aircraft reciprocating and gas turbine powerplants. Students gain a solid understanding of the basic principles of the construction, design, lubrication, cooling, and exhaust systems, including maintenance practices of reciprocating and gas turbine powerplants installed in aircraft. Thrust reverser operation of gas turbine engines is also included. The course has a practical component that includes the inspection, fault analysis, servicing and repair of key engines systems covered in the course.

Note
Three hours lecture and three hours lab a week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 216 - Aircraft Propulsion Drive Systems

Credits: 3

A detailed study of aircraft propulsion drive systems that convert engine power to thrust necessary for sustained flight. Drive systems include propellers, and rotor-blades found on small, medium, and large fixed, and rotary-wing aircraft. Emphasis on fixed and controllable-pitch propellers applications as well as rotor-blades, and rotor-hubs assemblies found on helicopters. Topics include theory of operation, dynamic and static balancing, vibration analysis, design characteristics, materials, and maintenance practices. Students practice inspection, servicing, balance, maintenance and repair of propeller and rotor systems.

Note
Two hours lecture and four hours lab a week.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

AVM 231 - Aircraft Finish and Fabrication

Credits: 3

This course is designed to acquaint the student with the wood and fabric coverings and procedures used on aircraft, and methods used in preparation for and application of paint finishes to aircraft surfaces.

Note
One hour recitation and six hours lab a week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 241 - Navigational Aids and Communication Systems

Credits: 3

A survey study of the aids to navigation and communications used in light and intermediate class aircraft. Operation and installation of the various types of equipment will be stressed.

Note
Two hour lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AVM 111 or ECET 100.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 261 - Aircraft Inspection and Assembly

Credits: 5

A study of assembly and manufacturing procedures and inspection of aircraft components. This course also covers in detail annual and 100-hour inspections.

Note
Three hours recitation and six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AVM 121, 131.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

AVM 301 - Advanced Reciprocating Powerplant Technology

Credits: 3

A study in the theory, operation, construction, design, and

maintenance of reciprocating powerplants installed in aircraft. Topics include the principles of the Otto cycle, reciprocating powerplant systems, and emerging trends in the design and application of reciprocating engines, including aviation diesel engines. Practical experiences include engine removal, installation, and troubleshooting to an airworthy standard, with an emphasis on disassembly and inspection of modern reciprocating engines found in single and twin-engine aircraft using visual, dimensional, and non-destructive techniques.

Note
Two hours lecture and four hours lab a week.

Repeat for Credit
N

Requisites
None

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 303 - Introduction to Aircraft Composite Structures

Credits: 3

Introduces composite materials used in the design and production of legacy and modern aircraft. Topics include material characteristics, fabrication, and inspection; repair of non-metallic primary and secondary structures and materials using manufacturers' instructions. Materials include fabric, wood, fiberglass, plastics, honeycomb, and others. Students practice the selection, installation, application of protective coatings, and removal of special fasteners used in these structures. Laboratory exercises emphasize the fabrication and inspection of modern composite structures.

Note
Two hours lecture and four hours lab a week.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 304 - Aircraft Fuel Management and Metering Systems

Credits: 3

A comprehensive study of airframe and propulsion engine fuel systems associated with fuel storage, management, transfer and metering as applied to both reciprocating and turbine powered aircraft. Lecture topics include systems operation, maintenance methods, procedures and safety precautions associated with aircraft fueling and defueling for over-the-wing and pressure fueling systems. Fuel quantity, pressure and temperature indicating and warning systems, fuel dump, and detail reciprocating and turbine engine fuel metering systems including carburetor overhaul, electronic engine fuel controls (EEC and FADEC) are covered. Students practice the inspection, check, service, troubleshooting and repair of the various fuel systems found on board the aircraft to a level that assures continued airworthiness and safety.

Note
Two hours lecture and four hours of lab a week.

Repeat for Credit
N

Requisites
None

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 305 - Aircraft Avionics and Instrument Systems

Credits: 3

A study of flight instrument systems and navigation/communication electronic aids installed on aircraft. The course includes both lecture and practical applications of these systems to include operation, inspection, fault analysis and repair. The student will be exposed to mechanical and electronic airframe and powerplant indication equipment including flight instrument systems for heading, speed, altitude,

temperature, pressure, RPM, and position indicating. The course includes flight management systems, and GPWS, TAWS, laser gyro and advanced Comm/Nav applications. Emphasis will be placed on NAV/COMM systems found in modern aircraft and associated antenna applications and installation methods. Pitot/Static instruments and systems are also discussed. Students practice inspection, service, fault analysis, installation and repair of these systems

Note
Three hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECET 100 or AVM 111.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 306 - Rotary and Fixed Wing Aircraft Design and Assembly

Credits: 3

A detailed study of the purpose of fixed-wing and rotary-wing aircraft designs and aerodynamic characteristics, their construction methods and assembly procedures. The course provides an insight critical maintenance tasks performed that impact the safe operation of the aircraft as well as exposure to the manufacture and assembly of aircraft. Students practice the rigging, assembly, jacking, weighing, and balancing of aircraft and flight control surfaces according to manufacturer's technical manuals; and making accurate record entries for tasks performed in accordance with FARs.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AVM 101, AVM 121 or MET 111.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

AVM 312 - Aircraft Propellers

Credits: 2

A study of the use, maintenance, and inspection of propellers and their related control systems.

Note
One hour recitation and three hours lab a week.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

AVM 321 - Powerplant Fundamentals

Credits: 4

A study of the principles of operation, design features, and operating characteristics of reciprocating aircraft engines. Includes overhaul inspection procedures on current horizontal opposed and radial engines.

Note
Three hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AVM 131.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Natural and Physical Sciences

AVM 322 - Powerplant Operation and Troubleshooting

Credits: 3

Experience in installation, operation, and removal of aircraft engines. Engine analysis and diagnosis of malfunctions, including methods of remedy, are performed on airworthy engines.

Note
Two hours recitation and four hours lab a week.

Repeat for Credit
N

Requisites
Corequisites: AVM 402 and AVM 301,

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 332 - Gas Turbine Powerplant

Credits: 5

Advanced study of the fundamentals of gas turbine powerplants including operation, studies of supporting systems and inspection methods are fundamental to this course.

Note
Two hours recitation and nine hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AVM 321.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 342 - Powerplant Induction and Fuel Systems

Credits: 4

A study of aircraft induction and fuel metering systems including fuels, carburetors, fuel injection systems, superchargers, and other induction system components used to ensure a dependable and accurate fuel supply at any flight configuration and attitude.

Note
Two hours recitation and six hours lab a week.

Repeat for Credit
N

Requisites
Corequisite: AVM 321.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 351 - Powerplant Ignition and Electrical Systems

Credits: 3

A study of battery, magneto high and low tension ignition systems, including turbine igniters for today's aircraft. Also a study of powerplant starting and charging systems and related components. Emphasis will be placed on troubleshooting, repair, and timing of aircraft ignition systems.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AVM 111.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 352 - Powerplant Overhaul

Credits: 3

Practical experience in overhauling reciprocating engines. Engines are assembled and operationally checked in lab.

Note
One hour lecture and six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AVM 321.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 370 - Advanced Aircraft Avionics and Instrument Systems

Credits: 3

Advanced study of flight instrument systems and navigation/communication electronic aids installed on large Corporate and Transport Category aircraft. The course includes both lecture and practical applications of these systems to include operation, inspection, fault analysis and repair. The course includes flight management systems, and GPWS, TAWS, laser gyro and advanced Comm/Nav applications.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AVM 305.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

AVM 390 - Problems in Aviation

Credits: 1-18

Provides the student the opportunity for advanced study in a specific topic area or to apply aviation education to the improvement of skills previously learned.

Note
Topics are selected jointly by the student and the instructor.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

AVM 401 - Aircraft Airworthiness, Conformity, and Quality Assurance

Credits: 3

A capstone course requiring students to tie all previous coursework associated with airframe and powerplant systems maintenance and operations together to perform an effective and safe inspection of the entire aircraft in compliance with manufacturer's recommendations and FAR requirements. This course emphasizes practical experiences necessary to inspect the aircraft for continued airworthiness. Aircraft is weighed and conformity inspections are performed. All work and inspection status is recorded and documented using approved maintenance entries. Part 145 operational requirements are included in the course experience and work team scheduling and coordination is emphasized.

Note
Three hours lecture and four hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing and instructor consent.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

AVM 402 - Gas Turbine Powerplant Technology

Credits: 3

A study in the theory, operation, construction, design, and maintenance of gas turbine powerplants installed in aircraft. Topics include jet propulsion history and development, the Brayton cycle, turbine engine systems, thrust reverser operations, and emerging trends in the design and application of gas turbine engines. Practical experiences include engine removal, installation, engine test cell operations, and troubleshooting to an airworthy standard with an emphasis on disassembly and inspection of small turboprop/turboshaft engines commonly found on turbine twin-engine aircraft and helicopters.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
None

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVM 403 - Advanced Aircraft Avionics and Instrument Systems

Credits: 2

Advanced study of flight instrument systems and navigation/communication electronic aids installed on large Corporate and Transport Category aircraft. The course includes both lecture and practical applications of these systems to include operation, inspection, fault analysis and repair. The course includes flight management systems, and GPWS, TAWS, laser gyro and advanced Comm/Nav applications.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AVM 305.

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

AVM 497 - Aviation Maintenance Capstone

Credits: 3

A capstone course designed to help prepare the students for industry-required credentials. It will be comprehensive in nature to the rest of the curriculum. Subjects will be incorporated from the rest of the applicable curriculum and the ACS standards. Students shall research and present a topic as determined by the instructor.

Note
Two hours lecture, three hours lab a week

Repeat for Credit
N

Requisites
Corequisite: AVM 301 and AVM 402

Typically Offered
Fall, Spring, Summer

AVMR 220 - Aviation Maintenance Review/General

Credits: 4

The general review course is designed for those individuals who have met the Federal Aviation Administration's eligibility requirements under FAR 65.77. The review conforms to the three levels of training set forth by the FAA. Three hours rec. and three hours lab a week.

Repeat for Credit
N

Typically Offered
Fall, Spring

AVMR 230 - Aviation Maintenance Review/Airframe

Credits: 4

The airframe review course is designed for those individuals who have met the Federal Aviation Administration's eligibility requirements under FAR 65.77. The review conforms to the three levels of training set forth by the FAA.

Repeat for Credit
N

Typically Offered
Fall, Spring

AVMR 250 - Aviation Maintenance Review/Powerplant

Credits: 4

The powerplant review course is designed for those individuals who have met the Federal Aviation Administration's eligibility requirements under FAR 65.77. The review conforms to the three levels of training set forth by the FAA

Repeat for Credit
N

Typically Offered
Fall, Spring

AVT 100 - Introduction to Aviation

Credits: 3

This course examines the history of aviation and a look at the future. Students discuss the attributes of an aviation professional, careers, career planning, and pilot certification. Students consider historical events and their relationship to current aviation aspects. The interdependency and synergy in the development of military aircraft, the space program, as well as the growth of commercial and general aviation is discussed. Students use the Internet for various research projects concerning the past, present, and future of aviation.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Historical Perspectives
Human Diversity within the U.S.

AVT 120 - Aeronautical Programs Flight Familiarization

Credits: 1

An introduction to the fundamentals of flight in various types and categories of aircraft. A familiarization of piloting skills and knowledge, a demonstration of aircraft capabilities, and the National Airspace System.

Note
Four hours lab a week.

Repeat for Credit
N

Requisites
Corequisite: PPIL 111.

Typically Offered
Fall, Spring, Summer

AVT 240 - Introduction to Air Traffic Control

Credits: 3

An introductory air traffic control (ATC) course that focuses on Terminal, Enroute, and FSS ATC procedures. The course examines the role of an air traffic controller at the various operational positions throughout the ATC system. The course gives an overview of the current U.S. National Airspace System as it relates to ATC procedures. In addition, the course looks at the use of future technologies and how they enhance the ATC system. Off-campus trips contribute to experiential learning.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 111.

Typically Offered
Spring

K-State 8

Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

AVT 242 - Aviation Meteorology

Credits: 3

Basic aviation-related meteorology concepts through the study of atmospheric elements and how they generally affect the weather: introduction to the subject, water in the atmosphere, variables which cause local weather changes, specific aviation-associated hazards, understanding meteorological reports and forecasts, meteorological techniques used in predicting weather patterns.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences

AVT 243 - Aircraft Electrical, Navigational, and Communication Systems

Credits: 3

Provides students the basic knowledge of aircraft electrical systems, including navigation, communications, instruments, and power systems.

Repeat for Credit
N

Requisites
Prerequisite: AVM 111.

Typically Offered
Other

K-State 8
Empirical and Quantitative Reasoning

AVT 250 - Safety and Security of Airport Ground Operations

Credits: 3

This course discusses general aviation airport ground operations, particularly from the mechanic, pilot, and ramp worker perspective. Focus will be on increasing awareness of airport operations. Attention will be given to improving airport safety by creating an enhanced awareness of rules, policies, procedures, and potential hazards that affect all individuals working in and around the airport ground operations environment. Some topics included are: aircraft marshalling procedures, airfield security issues, ground vehicle operations, and security and accident/incident response reporting.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Historical Perspectives
Human Diversity within the U.S.

AVT 315 - Advanced Avionics

Credits: 3

This course covers the latest developments and trends in navigation and communication systems. Topics include Future Aviation Navigation Systems (FANS), fiber optics, enhanced vision, ADS-B, the FAA's NextGen, as well as other advancements in avionics.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Corequisite: AVM 241 or AVM 242.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

AVT 316 - AET and FCC Training

Credits: 1

This course is a self-paced lab that allows students to study for their Aviation Electronics Technician certificate and their Federal Communication Commission license in Elements 1, 3 and 8.

Note
Two hours lab a week.

This is a credit/no-credit course and will not affect the student's GPA.

Repeat for Credit
N

Typically Offered
Fall, Spring

AVT 317 - Composites I

Credits: 3

Introduction to composite materials used in a broad range of industries with an emphasis on aero structure. Topics include defining a composite, understanding the materials, safety aspects, and shop layouts that are used to produce composite parts. An overview of the construction methods, understanding how to inspect components for damage, and procedures to perform the actual repair used in industry today. Students develop an understanding of how to design/source industrial composite fasteners and install into the composite structure and the science of coatings for the protection of both the composite materials as well as metallic components adjacent to composites. The labs support the lectures with projects designed to give the student hands on application.

Note
One hour lecture and four hours lab a week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

AVT 318 - Composites I Laboratory

Credits: 2

An optional laboratory course introducing the use of equipment and materials utilized in the advanced composites industry.

Note
Four hours lab a week.

Repeat for Credit
N

Requisites
Corequisite: AVT 317.

Typically Offered
Fall

AVT 327 - Avionics Repair

Credits: 3

An in depth overview of aircraft wiring. Procedures in terminating, repairing, testing and troubleshooting of aircraft wiring, as well as aging wiring inspections.

Note
One hour lecture and four hours lab a week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

AVT 330 - Avionics Troubleshooting

Credits: 4

An in-depth troubleshooting project, requiring critical thinking to analyze the problem and provide the correct repairs.

Note
One hour lecture and six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AVT 327.

Typically Offered
Spring-Even Years

AVT 340 - Human Factors in Aviation

Credits: 3

Explores the physical environment and physiology limitations imposed on the aviation professional. Health, fatigue, human behavior and errors, communication, team building, leadership, situation awareness, crew resource management, judgment, and aeronautical decision making are studied to achieve safe and efficient operation.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 111 or AVT 100, or junior standing.

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences
Social Sciences

AVT 360 - Airport Law

Credits: 3

A study of how the U.S. regulatory and legal systems work in relation to airport management. This course emphasizes contract law related to the Federal Aviation Administration Airport covenants and restrictions, Federal Aviation Regulation compliance and airport operator liability.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

AVT 361 - Airport Environmental Studies

Credits: 3

Introduction to responsibilities, liabilities and public relations when dealing with environmental issues in day-to-day airport operations. Includes strategies for addressing airport and aircraft noise, wildlife hazard mitigation, compatible land use, wetlands, historical properties and impacts of construction. Federal regulations and enforcement are studied with emphasis on the Clean Water Act, Clean Air Act, Resource Conservation and Recovery Act, Pollution Prevention ACT, and National Historic Preservation Act as they apply to airports.

Repeat for Credit
N

Requisites
Prerequisite: MATH 100 and ENGL 200

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

AVT 380 - Airport Operations

Credits: 3

A study of the daily operations of an airfield in compliance with regulatory agencies, understanding the role of liaison to airport staff regarding operations, development of department budgets, knowledge of effective supervisory practices and principles, ability to plan and carry out airport operations and development programs under airport management matrix.

Note
Three hours lecture and three hour lab per week.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200

Typically Offered
Spring

AVT 386 - Aerodynamics

Credits: 3

This course covers incompressible flow theory and wing theory as well as calculations of stall speed, drag, and basic performance criteria. This course also examines configuration changes, high and low speed conditions, and special flight operations. Stability and control, weight and balance, and operational data are also examined. Aerodynamic performance of aircraft powered by

reciprocating, turboprop, and jet turbine engines are considered. The student will be introduced to aircraft design and high-speed aerodynamics.

Repeat for Credit
N

Requisites
Prerequisite: MATH 100; and PPIL 111 or AVM 141.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

AVT 389 - Problems in Aviation

Credits: 1-18

Provides the student an opportunity to apply their aviation education to the improvement of skills previously learned as designated by the instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

AVT 400 - Composites II

Credits: 3

Continued study of the mechanical properties of several composite materials along with strengths and limitations. Topics include gelcoats for tooling and part production, layup of semi complex composite parts using wet layup and vacuum bagging techniques, simple mold development, construction, and repair. Additionally, students are introduced to compression composite molding compounds and tooling required for production, and composite facility layout and outfitting. The lab will support the lectures with projects designed to give the student the hands on application.

Note
One hour lecture and four hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AVM 303 or AVT 317.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

AVT 405 - Introduction to Non-destructive Testing

Credits: 2

Introduction to non-destructive testing (NDT) and inspection methods commonly used to detect material anomalies in diverse industries. NDT methods used in aviation/mechanical structures and components is emphasized. Students gain practice using Visual, x-ray (radiographic, magnetic particle, ultra-sound, eddy current and dye penetrant), NDT methods and techniques on test samples. Serviceability of the components is determined using approved manufacturers service limits.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: MET 121, or MET 231 and MET 245.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

AVT 410 - Aviation Maintenance Management

Credits: 3

Provides students with an understanding of general aviation and commercial aviation maintenance programs. Includes regulations, maintenance levels, technical publications, quality assurance, inspections, human factors, and unions. It also provides an understanding of the difficulties in managing a line operation. Case studies of maintenance scenarios are used.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

AVT 417 - Composites III

Credits: 3

Continued study of the highly complex composite parts and associated molding technologies used to produce these parts. Topics include the construction of resin infusion parts and mold construction, resusable vacuum bagging materials, application of preimpregnated materials and tooling designed to withstand oven cure cycles, discussion of advanced materials and techniques new to the industry. The lab will support the lectures with projects designed to give the student the hands on application in a relative environment.

Note
One hour lecture and four hours lab a week.

Repeat for Credit
N

Requisites
Corequisite: AVT 400.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

AVT 420 - Aviation Accident Investigation

Credits: 3

This course is designed to provide a general understanding of the methods and procedures used in aviation accident investigation. Students in this course will learn methods used to gather and analyze facts of accidents as well as determine probable cause and contributing factors. Procedures and techniques used to determine accident causes will also be analyzed. Historical accident reports from National Transportation Safety Board (NTSB) and other organizations will be examined.

Repeat for Credit
N

Requisites
Corequisite: AVT 340 and junior standing.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

AVT 429 - Avionics Maintenance

Credits: 3

Provides the basic knowledge to repair and install pitot-static systems. Practical experience in troubleshooting and using maintenance test equipment.

Note
One hour lecture and four hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AVM 305.

Typically Offered
Fall-Odd Years

K-State 8
Empirical and Quantitative Reasoning

AVT 430 - Advanced Avionics Installation

Credits: 3

Provides practical knowledge of avionics suite installation, to include Garmin. Students will gain additional experience in operational checks, troubleshooting and software loading on the Garmin G1000/900X. This course is an individual semester long project.

Note
One hour lecture and four hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AVT 327.

Typically Offered
Spring-Odd Years

K-State 8
Empirical and Quantitative Reasoning

AVT 435 - Air Transportation

Credits: 3

This interactive course examines the development of the United States air transportation system, current issues, and the competitive strategies of past and present airline executives; examines the many attributes of starting and operating a successful airline in a competitive market; and explores the role of airport operations and the commercial and corporate aircraft that challenge the air transportation system.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Summer

AVT 440 - Air Carrier Operations

Credits: 3

A study of Federal Aviation Regulations that influence air carrier and commercial operators. Students will gain an appreciation of the variety of regulatory issues involved in air carrier operations such as certification, training, and operational safety and security requirements. Students will also gather the background information necessary to correlate and apply relevant regulations to daily aviation operations. The course focuses on FAR Part 61, 91, 119, 121, and 135.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 111 or AVT 100, and junior standing.

Typically Offered
Spring

AVT 442 - Advanced Air Traffic Control

Credits: 3

An in-depth study of tower, TRACON, and enroute procedures. Also examines the FAA's future air navigation system concept.

Repeat for Credit
N

Requisites
Prerequisite: AVT 240, PPIL 112.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility

AVT 445 - Aviation Law

Credits: 3

A study of how the U.S. regulatory and legal systems work in relation to aviation activities. It is designed to help those in the aviation industry understand their rights, liabilities, and responsibilities and avoid common legal pitfalls. Emphasis will also be placed on aircraft ownership, registration, and insurance.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

AVT 446 - Corporate and Business Aviation Management

Credits: 3

A study of the history of corporate and business aviation, the regulation of the industry, and the operation and management of corporate and business flight departments. Students will receive an overview of the social, economic, and political effects of business aviation. Aircraft selection and utilization, maintenance responsibilities, fiscal considerations, fractional ownership, and passenger and

crew safety and security measures will also be studied.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Spring

AVT 448 - Aviation Legislation

Credits: 3

Students are required to take part in the University Aviation Association's Annual Seminar on Establishing Aviation Policy during the first full week of January in Washington, D.C. Students prepare for the seminar with required reading assignments.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility

AVT 450 - Aviation Safety Management

Credits: 3

A course designed to assist the student to develop an attitude and philosophy for accident prevention. The course includes ideal and practical, personal and organizational safety procedures and goals; safety philosophies; aircraft accident reports; human factors; principles of accident investigation; accident prevention program and accident statistics; current events; NTSB special studies. The safety program is analyzed from the theoretical and philosophic points of view. A safety program is developed with an examination of safety concepts, the human elements of accidents, managing a safety office in an organization, and current events.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

AVT 451 - System Safety

Credits: 3

This course is designed to provide an understanding of the system safety discipline. Students will learn how the system safety process is used in accident prevention and examine its role in management. Students will also examine various aircraft systems for overall safety of operation.

Repeat for Credit
N

Requisites
Prerequisite: AVT 450.

Typically Offered
Spring-Odd Years

K-State 8
Empirical and Quantitative Reasoning

AVT 455 - Current Trends and Issues in Aviation

Credits: 3

This course explores current trends and issues in the aviation industry. Emphasis is placed on discussing current issues that are impacting the world aviation marketplace. Students will address these issues and trends from the standpoint of application to their career, relevance to the economic viability of the industry, and the impact such trends place on aircraft operators and manufacturers.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives

AVT 461 - Airport Management

Credits: 3

An in depth study of both landside and airside airport business management, utilizing the American Association of Airport Executives' Body of Knowledge modules. Includes a study of the role of the airport in community development.

Note
Studio format incorporating lecture and lab elements.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing

Typically Offered
Fall

AVT 462 - Airport Planning

Credits: 4

A study of airport planning and practices to understand FAR Regulation part 139 airport design standard as well as a study of both landside and airside planning issues utilizing the American Association of Airport Executive's Body of Knowledge modules.

Note
Studio format incorporating lecture and lab elements.

Repeat for Credit
N

Requisites
Prerequisite: AVT 461.

Typically Offered
Fall

AVT 464 - Airport Certified Manager

Credits: 1

The study and preparation for various forms of certification within the AAAE realm including the opportunity to study and take the Airport Certified Employee (ACE) exams and the Certified Member (CM) exam.

Note
One hour lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AVT 250, AVT 360, AVT 462.

Typically Offered
Spring

AVT 480 - Airport Global Networks

Credits: 3

An introduction to the economic, political, and civic challenges that impact the profitability of airports worldwide and the steps being taken by the airport industry and international governing bodies to address them.

Repeat for Credit
N

Requisites
Prerequisite: AVT 380, Junior Standing, and ENGL 302

Typically Offered
Spring

K-State 8
Global Issues and Perspectives

AVT 482 - Aviation Ethics and Leadership

Credits: 3

Students acquire an understanding of core leadership values demanded by the aviation industry, understand leadership challenges facing the aviation industry, and identify personal leadership styles and their most effective implementation within industry.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

AVT 485 - Helicopter Maintenance

Credits: 3

An advanced study of the major components of rotary-winged aircraft to include airframe, rotor, transmission and engine components of turbine and reciprocating engine helicopters. Also includes a detailed study and validation of all Federal Aviation Administration required documentation related to maintenance, historical records, and inspection of components.

Note
Two hours lecture and 4 hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: AVM 111, 121, 131, 141, 151 or consent of instructor.

Typically Offered
Summer

K-State 8
Ethical Reasoning and Responsibility

AVT 497 - Senior Capstone

Credits: 3

This culminating experience is a sustained occasion when students will put into independent practice the intellectual, creative, and expressive skills/knowledge they have cultivated in their undergraduate curriculum. In this course students integrate discipline-specific knowledge in addition to communication and inquiry methods to solve problems and communicate mastery of their respective area of interest.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing and instructor consent.

Typically Offered
Fall, Spring

AVT 498 - Research Project

Credits: 1-9

Research, scholarly and creative activities in the aviation field. Working with faculty on a current research project.

Note
The specific course content varies in accordance with current projects.

Repeat for Credit
N

Requisites
Prerequisite: Junior or senior standing.

Typically Offered
Fall, Spring, Summer

AVT 560 - Airport Design

Credits: 4

Student teams with faculty and industry advisors prepare to enter their work in the Airport Cooperative Research Program's (ACRP) national design competition for universities addressing issues relating to airports and the National Airspace System. The competition focuses on design solutions in the following broad areas: Airport Operation and Maintenance, Runway Safety/Runway Incursions/ Runway Excursions, Airport Environmental Interactions, and Airport Management and Planning.

Repeat for Credit
N

Requisites
Prerequisite: AVT 360, AVT 361, and AVT 462.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives

AVT 611 - Aircraft Regulation and Certification

Credits: 3

Provides an overview of the FAA certification process relating how the certification process contributes to a safe

National Airspace System. Application of relevant Federal Aviation Regulations. Covers both aircraft type and production certification to include airframe, engine, and component certification. Covers the history of aviation regulation and corresponding relationship to aerospace safety.

Repeat for Credit
N

Typically Offered
Fall

AVT 703 - Project Management for Aerospace Professionals

Credits: 3

This course focuses on applied project management, methodology, tools, and techniques. Topics include career aspects of project management; business factors affecting the project; project organization, planning, execution, and communications; the project life cycle; risk analysis; and best practices in project management. Course will include specific applications in the aviation/aerospace sector.

Repeat for Credit
N

Typically Offered
Fall

AVT 707 - Research Methods

Credits: 3

Provides students with the skills necessary to perform graduate-level research in the field of technology. Course focuses primarily on quantitative research; however, qualitative and mixed-method research methods are also covered. Statistical Research Software applications are also included.

Repeat for Credit
N

Typically Offered
On sufficient demand

AVT 722 - Aircraft Type Certification

Credits: 3

A detailed examination of the type certification process leading to the issuance of a type certificate, and changes to a type certificate through an amended type certificate, supplemental type certificate, or amended supplemental type certificate. Covers FAA and international certification standards and regulating bodies as well as relevant performance standards to include role of FAA Advisory Circulars, DO 160, 178, and 254, SAE, ASTM, and other industry standards in the certification process. Presents the continuing airworthiness process, including the issuance of airworthiness directives, and the relationship of manufacturer service bulletins, and service letters. Brief discussion on type validation process. Discuss the importance of developing processes to manage all of the data associated with the certification process.

Repeat for Credit
N

Requisites
Prerequisite: AVT 611

Typically Offered
Fall, Spring, Summer

AVT 734 - Advanced Aircraft Certification

Credits: 3

A detailed examination of the process to determine applicable regulations for changed aeronautical products, certification project planning elements not covered by AVT 722, application of selected means and methods of compliance, delegation systems, and certification validation processes for export of aeronautical products.

Note
Name was changed to Advanced Aircraft Certification. https://kstate.curriculog.com/proposal:7708/form

Repeat for Credit
N

Requisites
Prerequisite: AVT 722

Typically Offered
Fall, Spring, Summer

AVT 744 - Aviation Human Factors Analysis and Design

Credits: 3

An in-depth exploration of the history of air safety as related to human error and how system safety has been greatly enhanced by the incorporation of the fundamentals of human factors in design. Students will understand and articulate the major advances in Human Factors research over the past 40 years and identify knowledge gaps yet to be filled.

Repeat for Credit
N

Requisites
Prerequisite: AVT 611.

Typically Offered
On sufficient demand

AVT 751 - Aerospace Policy

Credits: 3

Students will understand State and Federal legislative processes and appreciate how ideas become law. This course will specifically include a study of the concepts of advocacy, building coalitions, caucuses, theories of statutory interpretation, and drafting legislation. Where possible the course will include meeting with legislators. Students will also understand how to attain, track, and influence Federal legislation affecting the aviation/aerospace industry.

Repeat for Credit
N

Typically Offered
On sufficient demand

AVT 771 - Leadership in the Aerospace Sector

Credits: 3

An exploration of the theories of leadership and critical issues facing aerospace sector leadership in the coming decades. Concepts of resilience, contingencies, communication, collaboration, ethics, strategic planning, failure/recovery, and cultural transformation will be explored. At the end of this course students will understand and appreciate the differences between effective and ineffective leaders.

Repeat for Credit
N

Typically Offered
On sufficient demand

AVT 790 - Aerospace Topics

Credits: 3

Variable content as determined by the instructor to address emerging issues and challenges in the aviation/aerospace sector and/or to meet non-standard student needs and opportunities.

Repeat for Credit
Y

Typically Offered
On sufficient demand

AVT 799 - Advanced Topics in Aeronautics

Credits: 3

Advanced topics in Master of Science in Aeronautics.

Repeat for Credit
Y

Requisites
Prerequisite: Instructor consent.

Typically Offered
On sufficient demand

AVT 836 - Master of Science in Aeronautics Capstone Project

Credits: 3

An applied project focused on either aircraft certification or aerospace leadership/policy. This course is designed to improve the demonstration of professional knowledge in the student's technical discipline.

Repeat for Credit
N

Requisites
Prerequisite: AVT 611, AVT 707, COT 701, and advisor permission

Typically Offered
Spring

AVT 838 - MSA Thesis

Credits: 1-6

Required research for M.S.A. thesis option students**.**

Repeat for Credit
Y

Requisites
Prerequisites: AVT 611, AVT 707

Typically Offered
On sufficient demand

AVT 841 - Aerospace Safety Management Systems (SMS)

Credits: 3

An in-depth analysis of aviation safety across all elements of the industry from manufacturing to training, to airports. The student will understand the impacts and challenges of balancing operational efficiencies with the maximization of organizational safety. Safety Management Systems (SMS) concepts will be explored, and students will have the opportunity to design a sample SMS program.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

BAE 020 - Engineering Assembly

Credits: 0

Presentation of professional problems and practices by students, faculty, and professionals associated with the career of biological and agricultural engineering.

Note
One hour lecture a month.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BAE 101 - Introduction to Biological and Agricultural Engineering and Technology

Credits: 1

Introduction to discipline, department, university, and profession. Exploration of career option. Gain skills through application-oriented problem solving.

Note
One hour recitation a week.

Repeat for Credit
N

Typically Offered
Fall

Cross-listed
ATM 101

BAE 131 - Biological Systems Engineering Project I

Credits: 1

Team-oriented design project, with an emphasis on applying computer tools to problem solving in biological systems engineering.

Note
Three hour lab a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: MATH 220.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility

BAE 231 - Biological Systems Engineering Project II

Credits: 1

Team-design project presented by biological and agricultural engineers from industry and student engineering design teams with an emphasis on problem

definition, information search, idea generation, concept development, and written oral communication.

Note
Three hour lab a week

Repeat for Credit
N

Requisites
Prerequisite: BAE 131.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives

BAE 250 - Solid Modeling

Credits: 1

Basics of solid modeling with the PTC software Pro Engineer/Creo. Modeling parts, creating assemblies, and creating drawing based on modeled parts and assemblies.

Note
Three hour lab/week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: ME 212.

Typically Offered
Spring

BAE 331 - Professional Practice for Biological Systems Engineering Design

Credits: 1

A preparatory course for BSE Senior Design class. Topics will include professionalism, project management, intellectual property, organizational behavior and ethics. Students will explore potential design project ideas, build design teams, and chose a project to complete for senior design in the following semester.

Note
One hour lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: BAE 231.

Typically Offered
Spring

K-State 8
Natural and Physical Sciences

BAE 345 - Properties of Biological Materials

Credits: 2

Characterization and application of material properties (physical, chemical, hygroscopic, rheological, and thermal) that affect the engineering design and analysis of biological processes and systems.

Note
Two hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 210 or CHM 220.

Typically Offered
Spring

BAE 346 - Properties of Biological Materials Laboratory

Credits: 1

Laboratory evaluation of biological material properties (physical, chemical, rheological, and thermal) that affect biological processes and systems, data analysis and interpretation

Note
Required for all biological systems engineering majors.

Repeat for Credit
N

Requisites
Prerequisite: Must be concurrently enrolled in BAE 345.

Typically Offered
Spring

BAE 350 - Off Road Machinery Systems

Credits: 2

Basic power and energy concepts. Machinery systems for tillage, planting, and harvesting crops. Impact of these systems on the environment and natural resources.

Note
Two hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 210.

Typically Offered
Fall

BAE 351 - Machinery Systems Lab

Credits: 1

Basic power and energy concepts. Machinery systems for tillage, planting, and harvesting crops. Impact of these systems on the environment and natural resources.

Note
Three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Must be taken concurrent with BAE 350.

Typically Offered
Fall

BAE 445 - Biological Engineering Fundamentals

Credits: 3

Integration of biochemistry, microbiology, and biology principles into engineering with topics such as chemistry of biomolecules, data analysis and presentation, material and energy balances for reactive and non-reactive processes, biochemical reactions, and application of biological engineering principles in industrial processes.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198 and BAE 345 or CE 533 or CHE 354 and CHE 355.

Typically Offered
Fall

BAE 447 - Cell Culture Technology Laboratory

Credits: 2

Cell culture laboratory fundamentals including media preparation and aseptic techniques; bioreactor assembly, sterilization, and operation; expansion of cell cultures, cell counting and viability; expression and measurement of target proteins; cell harvesting techniques; analytical techniques; and cGMP documentation.

Note
1 h recitation and 2 h lab per week

Repeat for Credit
N

Requisites
Prerequisite or corequisite: BAE 445 or ATM 345

Typically Offered
Fall

BAE 448 - Separation Technologies Laboratory

Credits: 2

Hands on experience of separations technologies such as cell lysis and extraction, precipitation, centrifugation, filtration, and chromatography; analytical methods used to assess separations; cGMP documentation

Note
1 hr recitation and 2 hr laboratory per week

Repeat for Credit

N

Requisites
Pre-requisite/corequisite: ATM 445 or BAE 626 or CHE 626

Typically Offered
Spring

BAE 450 - Off Road Machine Power Components

Credits: 3

Engine thermodynamics, fuel and combustion, engine components, engine cycles, engine power transfer and efficiencies, exhaust gas emissions. Mechanical power transfer mechanisms: bearings, belt drives, chain drives, gear drives, shaft drives. Hydraulic power transfer components and systems, fluid mechanics, hydraulic motors.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 213. Not available for credit students with ATM 455.

Typically Offered
Spring

BAE 460 - Computational & Statistical Tools for Engineers

Credits: 3

Application of statistical tools for analyzing engineering data. Practice of introductory to intermediate programming to develop problem-solving techniques for a wide variety of engineering applications.

Note
2 hour lecture and 2 hour studio each week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 221 and sophomore standing.

Typically Offered
Fall

BAE 497 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research projects.

Repeat for Credit
Y

Typically Offered
Fall, Spring

BAE 499 - Honors Research in Biological Systems Engineering

Credits: 1-18

Individual research problem selected with approval of faculty advisor. Open to students in the college of engineering honors program. A report is presented orally and in writing during the last semester.

Note
Instructor approval.

Repeat for Credit
Y

Typically Offered
Fall

BAE 535 - Structures and Environment Engineering

Credits: 3

Environmental control for agricultural buildings and structures; analysis and design of structural systems and members for agricultural structures.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: ME 513 and CE 333 or CE 530.

Typically Offered
Fall

BAE 536 - Biological Systems Engineering Senior Design I

Credits: 3

Applies and integrates engineering design principles, verbal and written communications, ethics, project management, social aspects, and economics to design a system, component or process which interfaces with agricultural and other biological systems. Emulates professional environment and provides experience in team dynamics and collaboration through the team-based design project.

Note
Two 3-hour labs a week.

Repeat for Credit
N

Requisites
Prerequisite: BAE 331 and one of the following courses as prerequisite or concurrent: ME 533, BAE 545, BAE 560.

Typically Offered
Fall

Cross-listed
ATM 536 - Agricultural Technology Management Capstone Project

K-State 8
Ethical Reasoning and Responsibility

BAE 545 - Biological Process Engineering

Credits: 3

Bioprocess engineering principles with an emphasis on momentum transfer and applications such as fluid flow and pump systems, steady- and unsteady-state heat transfer, psychrometrics and application to drying processes, and biomaterial and bioenergy processes.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ME 571 or CHE 530

Typically Offered
Fall

BAE 550 - Hydraulics and Mechatronics

Credits: 3

Basic hydraulic, mechatronic, and hybrid drive system concepts and design. Application of these technologies to agriculture, construction, and other off road equipment applications.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 213.

Typically Offered
Fall-Even Years

BAE 560 - Hydrology for Biological Systems

Credits: 3

Components of water cycle including precipitation, infiltration, evapotranspiration. Principles and measures for controlling storm water runoff and soil erosion including hydrology and surface water flow; design of water handling structures for land drainage, flood protection, and irrigation.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: ME 571 and either STAT 510 or BAE 460.

Not available for credit for students with CE 550.

Typically Offered
Spring

BAE 582 - Natural Resources/Environmental Sciences Project (NRES)

Credits: 3

A comprehensive project in NRES. Requires integration of

information and understanding acquired in NRES secondary major courses. Students must prepare and present written and oral reports.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 415, COMM 105.
Prerequisite or concurrent enrollment: 15 hours of approved courses in NRES secondary major.

Typically Offered
Fall, Spring

Cross-listed
DAS 582 and GENAG 582

K-State 8
Natural and Physical Sciences
Social Sciences

BAE 610 - Problems in Biological Systems Engineering

Credits: 1-3

Current and advanced problems in biological systems engineering.

Note
No more than 6 hours can be applied to the degree. Instructor approval.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

BAE 611 - Particle Technology

Credits: 3

Science and behavior of airborne particles or aerosols. Technology and methods for measuring, controlling, and utilizing aerosols in the agricultural and food industries. Specific topics include basic particle mechanics; principles of particle measurement; particle statistics; electrostatic precipitation; condensation; evaporation; dust generation; and filtration.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: BAE 460 or STAT 510, and PHYS 213.

Typically Offered
Spring

BAE 620 - Topics in Biological Systems Engineering

Credits: 1-18

Engineering topics for the design, understanding, and/or application of biological systems. Topics announced when offered.

Repeat for Credit
Y

Requisites
Prerequisite: Approval of instructor.

Typically Offered
Fall, Spring, Summer

BAE 626 - Bioseparations

Credits: 3

Engineering principles of unit operations such as cell lysis and extraction, precipitation, centrifugation, membrane filtration, and chromatography and analytical methods used in bioprocess development.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: BAE 445 or CHE 531 or instructor permission.

Typically Offered
Spring-Odd Years

Cross-listed
CHE 626

BAE 636 - Biological Systems Engineering Senior Design II

Credits: 1-3

A continuation of BAE 536. Completion of a team-oriented design project, with emphasis on construction, evaluation, documentation, and presentation of the design.

Repeat for Credit
N

Requisites
Prerequisite: BAE 536 or other approved capstone design course.

Typically Offered
Fall, Spring

BAE 640 - Instrumentation and Control for Biological Systems

Credits: 3

Fundamentals of instrumentation and control engineering applied in biological and agricultural systems and processes. Time-domain analysis and frequency response methods. Sensors and actuators in feedback control systems. Control system design. Case studies.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 410 or ECE 519, and MATH 340.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

BAE 642 - Fundamentals of Conversion of Biorenewable Resources

Credits: 3

An introduction to the conversion of biorenewable resources into biobased products and biofuels.

Note
Three hours of recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 220 and CHM 230.

Typically Offered
On sufficient demand

Cross-listed
CHE 642

BAE 643 - Life Cycle Assessment

Credits: 3

Introduction to the life cycle assessment methodology for quantifying environmental impacts of products, processes, and systems. Topics include life cycle methodology, data inventory process and databases, life cycle impact modeling approaches and software, uncertainty quantification, and practical applications to demonstrate life cycle assessment as a tool for making decisions to improve sustainability of materials, products, and systems.

Note
Three hours recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 220 and either CHM 230 or CHM 250

Typically Offered
Spring

Cross-listed
CHE 643

BAE 645 - Bioenvironmental Reaction Engineering

Credits: 3

Bioreaction engineering principles with an emphasis on biological and environmental engineering with topics such as mass transfer, homogenous and heterogenous reactions, enzyme and cell growth kinetics, bioreactor configurations and operation, and sustainable bioprocessing.

Note
3 hour lecture per week.

Repeat for Credit
N

Requisites
Prerequisites: BAE 345 or CHE 354 and CHE 355 and BAE 445.

Typically Offered
Spring

BAE 650 - Energy and Biofuel Engineering

Credits: 3

Principles of thermal energy, energy conversion, and bioenergy and biofuel production including biomass feedstocks, processing, and conversion. Energy and material balances of bioenergy production and processing systems.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: ME 513.

Typically Offered
Spring-Odd Years

BAE 651 - Air Pollution Engineering

Credits: 3

Air pollution legislation, standards, measurement, and terminology. Design and economics of particulate pollution control systems including cyclones, fabric filters, wet scrubbers, and electrostatic precipitators. Abatement of gas and vapor pollution using VOC incineration, gas adsorption and gas absorption. Meteorology and atmospheric dispersion modeling.

Note
Three hours recitation.

Repeat for Credit
N

Requisites
Prerequisite: ME 513, 571.

Typically Offered
Spring

BAE 660 - Hydraulic Transport in Biological Systems

Credits: 3

Applications of fluid mechanics for design and analysis of hydraulic systems in biological systems and environmental engineering including: mass, momentum and energy balances; pressurized Newtonian and non-Newtonian flow systems; irrigation principles; pumps; and hydraulic modeling.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ME 571 or CHE 530

Typically Offered
Fall

BAE 663 - Environmental and Ecological Risk Assessment

Credits: 3

Examination of processes and methodologies associated with three phases of human environmental and ecological risk assessments. Topics of contaminant release and exposure assessment, environmental transport theory and applications, and risk characterization. Experience in defining and quantifying uncertainty associated with human and ecosystem perturbation, risk management, and restoration of environmental and ecological resources.

Note

Three hours recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 340 and CHM 230 or CHM 250.

Typically Offered
Spring-Odd Years

Cross-listed
CHE 663

BAE 664 - Green Stormwater Infrastructure Design and Assessment

Credits: 3

Topics covered including engineering design of green infrastructure systems, including bioretention, stormwater wetlands, permeable pavement, and green roofs; methods for assessing the hydrologic and water quality performance at the site- and watershed scales.

Repeat for Credit
N

Requisites
Prerequisite: BAE 560 or CE 550.

Typically Offered
Fall-Even Years

BAE 665 - Ecological Engineering Design

Credits: 3

Definition, classification, and practice of ecological engineering. Course describes ecological systems, ecosystem restoration, and the utilization of natural processes to provide societal services and benefits to nature.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 221 and one of the following courses: BAE 560, CE 563, BIOL 529, BIOL 612, ATM 661.

Typically Offered
Fall-Odd Years

BAE 669 - Watershed Modeling

Credits: 3

Study and evaluation of process equations used in watershed-scale, water-quality models. Use and application of watershed models.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOG 508 and one of the following courses: BAE 560, CE 550, ATM 661.

Typically Offered
Spring-Even Years

BAE 740 - Biomaterials Processing

Credits: 3

Technologies of bio-based material processing including starch extraction (wet milling), plant oil extraction and refining, plant protein extraction and processing, cellulose processing, biofuel production, chemicals bioconversion, and drying technologies or biomaterials.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: BAE 345 or BAE 545 or GRSC 602.

Typically Offered
Fall-Even Years

Cross-listed
GRSC 740

BAE 750 - Analysis and Design of Off-Highway Vehicles

Credits: 3

Analytical study of design, testing, construction, and operating characteristics of off-highway vehicles and machinery. Includes human factors, mobility, and precision agriculture.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: BAE 536 or ME 574.

Typically Offered
On sufficient demand

BAE 760 - Environmental Engineering Seminar

Credits: 0

Discussion of current advances in research and practice of environmental engineering.

Note
One hour seminar biweekly.

Repeat for Credit
Y

Typically Offered
Fall, Spring

Cross-listed
CE 760

BAE 768 - Geoenvironmental Engineering Design

Credits: 3

A capstone design project in geoenvironmental engineering focused on resolving issues related to containment of pollutants and remediation of soil and groundwater.

Repeat for Credit
N

Requisites
Prerequisite one of the following: AGRON 605, AGRON 746, BAE 690, CE 625, CE 654, CHE 531, or GEOL 611.

Typically Offered
Spring

Cross-listed
CE 768 and CHE 768

BAE 810 - Research in Biological & Agricultural Engineering

Credits: 0-18

Research within the field of biological and agricultural engineering

Note
Approval of department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BAE 811 - Advances in Particle Technology

Credits: 3

Science and behavior of airborne particles or aerosols. Technology and methods for measuring, controlling, and utilizing aerosols in the agricultural and food industries. Specific topics include basic particle mechanics; principles of particle measurement; particle statistics; electrostatic precipitation; condensation; evaporation; dust generation; and filtration.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 703 or BAE 460 or STAT 510 or instructor permission.

Typically Offered
Spring

BAE 815 - Graduate Seminar 1: Literature Review

Credits: 1

Presentation and discussion of research philosophies, procedures, and results for engineers with emphasis on literature review.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall-Odd Years

BAE 816 - Graduate Seminar 2: Academic Writing and Publishing

Credits: 1

Presentation and discussion of research philosophies, procedures, and results for engineers with emphasis on academic writing and publishing.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing

Typically Offered
Spring-Even Years

BAE 817 - Graduate Seminar 3: Data Interpretation and Presentation

Credits: 1

Presentation and discussion of research philosophies, procedures, and results for engineers with emphasis on data analysis, interpretation, and presentation

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing

Typically Offered
Fall-Even Years

BAE 818 - Graduate Seminar 4: Research Presentation and Teaching

Credits: 1

Presentation and discussion of research philosophies, procedures, and results for engineers with emphasis on research presentation and teaching

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing

Typically Offered
Spring-Odd Years

BAE 820 - Topics in Biological & Agricultural Engineering

Credits: 1-18

A course reserved for study of current topics in agricultural engineering. Topics announced when offered.

Note
Instructor approval.

Repeat for Credit
Y

Typically Offered
On sufficient demand

BAE 840 - Measurement Systems

Credits: 3

Theory and application of measurement systems for biological and agricultural systems with emphasis on sensors and data-acquisition systems for measurement of variables related to soils, plants, animals, machines, and processes.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
Y

Requisites
Prerequisite: BAE 640.

Typically Offered
Fall

BAE 842 - Advanced Biomass Thermochemical Conversion

Credits: 3

Thermochemical methods to convert biomass to fuels and chemicals: liquefaction, pyrolysis, gasification, and heterogeneous catalysis. Analysis of the reaction kinetics and mass, heat, and momentum transfer in chemical reactors associated with these methods.

Note
Three hours of recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CHE 520 or ME 513 and CHE 550 or BAE 545.

Typically Offered
Fall-Odd Years

Cross-listed
Colisted with CHE 842.

BAE 843 - Advanced Life Cycle Assessment

Credits: 3

Theoretical underpinnings of the life cycle assessment methodology for quantifying environmental impacts of products, processes, and systems. Topics include life cycle methodology, data inventory process and databases, attributional and consequential modeling approaches, impact model theory and software tools, uncertainty quantification, and culminating project in system of choice.

Note
credit not granted for both BAE 643 and BAE 843

Repeat for Credit
N

Requisites
Prereq: prior coursework in calculus and chemistry OR instructor permission

Typically Offered
Spring

BAE 864 - Advanced Green Infrastructure Design and Assessment

Credits: 3

Advanced consideration of engineering design of green infrastructure and low impact development practices including bioretention, stormwater wetlands, permeable pavement, and vegetated roofs, as well as modeling tools for assessing hydrologic, water quality and broader environmental benefits of these systems at the site- and watershed scales.

Note
credit not granted for both BAE 664 and BAE 864

Repeat for Credit
N

Requisites
Prereq: BAE 560, CE 550, or other coursework in hydrology

Typically Offered
Fall-Even Years

BAE 865 - Advanced Ecological Engineering Design

Credits: 3

Advanced study of ecological engineering, systems and processes.

Note
Three hours recitation a week. Recommended background: Hydrology and Ecology. Not available for students with credit for BAE 665.

Repeat for Credit
Y

Typically Offered
Fall-Odd Years

BAE 869 - Advanced Watershed Modeling

Credits: 3

Advanced study and evaluation of process equations used in watershed-scale, water-quality models. Advanced application of watershed models.

Note
Three hours recitation a week. Recommended background: Hydrology and GIS. Not available for students with credit for BAE 669.

Repeat for Credit
Y

Typically Offered
Spring-Even Years

BAE 898 - Master's Report

Credits: 1-18

Topics selected with approval of major professor and department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BAE 899 - Master's Thesis

Credits: 1-18

Topics selected with approval of major professor and department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BAE 999 - Dissertation Research

Credits: 1-18

Topics selected with approval of major professor and department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BIOCH 100 - Biochemistry Orientation

Credits: 1

Discussion of biochemistry as a discipline in the life sciences.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

BIOCH 110 - Biochemistry and Society

Credits: 3

Topics in biochemistry related to aspects of daily living. Development of knowledge and skills for understanding bioscience information in news media and the Internet. Selected biochemical concepts with applications to humans, such as: chemical principles and biomolecules, nutrition/diets, growth and aging, disease, fermentation, drug action, medical diagnostics and forensics, and bioethics.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

BIOCH 111 - Biochemistry and Society Laboratory

Credits: 1

Experiments to promote understanding of chemicals and reactions in living systems.

Note
Three hours of laboratory a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 110 or concurrent enrollment.

Typically Offered
Fall, Spring, Summer

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

BIOCH 265 - Introductory Organic and Biochemistry

Credits: 5

For students in health and human sciences, nursing, and other areas desiring an integrated organic and biochemistry course to provide an understanding of carbohydrates, proteins, lipids, and digestive and metabolic systems.

Note
Three hours lecture and six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 110.

Typically Offered
Fall, Spring

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

BIOCH 266 - Elementary Organic and Biochemistry with Home and Virtual laboratory

Credits: 5

Provides an understanding of carbohydrates, proteins, lipids, and digestive metabolic systems.

Note
Three hours lecture and four hours of lab a week. The weekly lab exercises have two components: 1 in-home, hands-on experiment, and 1 virtual laboratory experiment, per week. In total the class will encompass 11 in-home and 11 virtual experiments.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite - CHM 110

Typically Offered
Fall, Spring, Summer

BIOCH 290 - Biochemistry Seminar

Credits: 2

Lectures and discussions on basic topics in biochemistry.

Repeat for Credit
Y

Requisites
Prerequisite: BIOCH 100.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

BIOCH 399 - Honors Seminar in Biochemistry

Credits: 3

Lecture, guided reading, and discussion of topics of general interest in biochemistry. Topics will vary depending on the interests and backgrounds of students enrolled.

Repeat for Credit
N

Requisites
Prerequisite: Freshman Honors Seminar.

Typically Offered
Spring

K-State 8

Ethical Reasoning and Responsibility
Natural and Physical Sciences

BIOCH 499 - Honors Project

Credits: 3

Open only to Arts & Sciences students who are active members of the University Honors Program.

Note
May be used by honors students to satisfy BS requirement for BIOCH 799.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

BIOCH 521 - General Biochemistry

Credits: 3

A basic study of the chemistry and metabolism of carbohydrates, lipids, proteins, and nucleic acids.

Repeat for Credit
N

Requisites
Prerequisite: CHM 350 or CHM 531.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

BIOCH 522 - General Biochemistry Laboratory

Credits: 3

A one-semester laboratory course encompassing a connected series of experiments that span biochemical chromatographic techniques, PCR- cloning into plasmids by restriction fragment exchange, protein expression and purification by His-tag affinity chromatography, spectroscopic analysis of ligand binding, enzyme kinetics and inhibition.

Note
Two hours of lecture and six hours of lab per week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 351 or CHM 532 and BIOCH 521 or concurrent enrollment.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

BIOCH 523 - Introduction to Biochemical Methods

Credits: 2

A one-semester virtual laboratory course encompassing a connected series of experiments that span biochemical chromatographic techniques, PCR- cloning into plasmids by restriction fragment exchange, protein expression and purification by His-tag affinity chromatography, spectroscopic analysis of ligand binding, enzyme kinetics and inhibition.

Note
Two hours of lecture and four hours of virtual laboratory experiments per week.

Repeat for Credit
N

Requisites
Prerequisites: CHM 350, CHM 351; BIOCH 521 or concurrent enrollment.

Typically Offered
Fall, Spring, Summer

BIOCH 571 - Medical Biochemistry

Credits: 3

Covers medically related concepts, structures, pathways

and mechanisms in biochemistry. Addresses the fundamental biochemistry behind veterinary, medical or dental topics and issues. Instructs in the fundamental principles of protein structure and function, enzymology, carbohydrate and lipid metabolism, hormones, biochemical energetics, membranes, nucleic acid and protein metabolism, information transfer and the genetic code, genomic and proteomic analyses, the interdependence of biochemical pathways, pathogenesis and additional new topics.

Note
Serves as preparatory for the MCAT/DAT/GRE examinations.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 521.

Typically Offered
Fall

BIOCH 599 - Research Training in Biochemistry

Credits: 1-3

Provides laboratory experience for majors and nonmajors in research techniques contributing to ongoing biochemical research.

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

BIOCH 755 - Biochemistry I

Credits: 3

An introduction to physical methods, kinetics, and thermodynamics of biochemical reactions and bioenergetics, chemistry of proteins and amino acids, carbohydrate chemistry, and metabolism. BIOCH 755 and 765 are for students interested in a two-semester comprehensive coverage of biochemistry. For a one-semester course, enroll in BIOCH 521.

Note
Non-majors lacking these prerequisites should obtain consent of instructor before enrollment.

Repeat for Credit
N

Requisites
Prerequisite: Chemical analysis, one year of organic chemistry, differential and integral calculus.

Typically Offered
Fall

BIOCH 756 - Biochemistry I Laboratory

Credits: 2

An intensive laboratory course to accompany BIOCH 755. BIOCH 756 and 766 are sequential courses for students interested in a two-semester comprehensive coverage of experiments in biochemistry. For a one-semester laboratory course, enroll in BIOCH 522.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: *BIOCH 755 or concurrent enrollment.

*Non-majors lacking these prerequisites should obtain consent of instructor before enrollment.

Typically Offered
Fall

BIOCH 757 - NMR Laboratory

Credits: 1

Basic methods and strategies of nuclear magnetic resonance used in the study of biological molecules. Principles and applications of simple one-dimensional and two-dimensional NMR experiments.

Note
Two three-hour laboratories per week. Meets second half of semester.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 755.

Typically Offered
Spring

BIOCH 758 - Protein Structure Laboratory

Credits: 1

Principles and uses of computational and experimental approaches for studying peptide and protein structure and dynamics: computer modeling and simulation techniques, fluorescence and circular dichroism spectroscopies, microcalorimetry, and analytical ultracentrifugation.

Note
Two three-hour laboratories per week. Meets first half of semester.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 755.

Typically Offered
Spring

BIOCH 765 - Biochemistry II

Credits: 3

Continuation of BIOCH 755; lipid chemistry and metabolism, amino acid metabolism, nutrition, nucleic acid chemistry and metabolism, integration of biochemical pathways and metabolic control mechanisms.

Note
Non-majors lacking these prerequisites should obtain consent of instructor before enrollment.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 755.

Typically Offered
Spring

BIOCH 766 - Recombinant DNA Laboratory I

Credits: 1

Biochemical manipulation of nucleic acids. Isolation of plasmid and chromosomal DNA, restriction enzyme digestions, gel electrophoresis. In vitro and in vivo plasmid assembly techniques, polymerase chain reaction, and DNA sequencing analysis. CRISPR/Cas gene editing in live cells.

Note
Two three-hour labs per week. Meets first half of semester.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 522. Recommended.

Typically Offered
Spring

BIOCH 767 - Recombinant DNA Laboratory II

Credits: 1

Approaches to study genetic interactions and protein-protein interactions using DNA techniques. Genomic integration of exogenous DNA, CRISPR/Cas editing, and yeast two-hybrid methods. Site directed mutagenesis, protein domain analysis, and protein interaction detection methodologies.

Note
Two three-hour labs per week. Meets second half of semester.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 522.

Typically Offered
Spring

BIOCH 775 - Molecular Biophysics

Credits: 3

Survey of the biophysical methods most frequently encountered in biochemistry and related disciplines. A summary of concepts and techniques of physical science used in studying the structure and function of biomacromolecules such as proteins and DNA. Applications include classical equilibrium thermodynamics and analytical methods like mass spectrometry and circular dichroism (CD), fluorescence, EPR and nuclear magnetic resonance (NMR) spectroscopy. An emphasis on the underlying principles and techniques used in determining the molecular weight and shape of biopolymers, biochemical mechanisms of action, and observation of conformational changes in macromolecules.

Repeat for Credit
N

Requisites
Prerequisite: CHM 350/CHM 351 or CHM 531/CHM 532, MATH 221, PHYS 114, BIOCH 755, BIOCH 756, BIOCH 765.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

BIOCH 799 - Advanced Research Training in Biochemistry

Credits: 0-18

Supervised research experience in biochemistry and molecular biophysics.

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BIOCH 806 - Biochemistry Seminar

Credits: 0-1

Seminar for graduate students in biochemistry.

Repeat for Credit
Y

Typically Offered
Fall, Spring

BIOCH 815 - Nuclear Magnetic Resonance (NMR) Spectroscopy of Macromolecules

Credits: 2

A lecture and laboratory course on 'state-of-the-art' multi-dimensional nuclear magnetic resonance methods and strategies in solving three dimensional structure of peptides, proteins, nucleic acids and other macromolecules.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Intersession

BIOCH 890 - Advanced Topics in Biochemistry

Credits: 1-3

Course to present timely topics in Biochemistry.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BIOCH 899 - Research in Biochemistry I

Credits: 1-18

Research in biochemistry which may be used for preparation of the M.S. Thesis.

Note
Sufficient training for research undertaken.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BIOCH 905 - Advanced Topics in Plant Biochemistry

Credits: 3

An advanced treatment of topics of current interest in plant biochemistry, including photosynthesis and carbon metabolism, nitrogen fixation and nitrogen metabolism, structure and function of the higher plant genome, and production of material of economic interest.

Repeat for Credit
Y

Requisites
Prerequisite: BIOCH 765.

Typically Offered
Fall-Even Years

BIOCH 907 - Advanced Topics in Insect Biochemistry

Credits: 3

Lectures, readings, and discussion of topics of current interest in insect biochemitry. Topics will include biochemical molecules and processes specific to insects, such as biochemistry of the exoskelton and regulation of metamorphosis, as well as comparison of insect and mammalian biochemistry.

Repeat for Credit
Y

Requisites
Prerequisite: BIOCH 521.

Typically Offered
Spring-Even Years

BIOCH 910 - Lipids

Credits: 3

Chemistry of plant and animal lipids, their occurrence, metabolism, and industrial uses.

Repeat for Credit
Y

Requisites
Prerequisite: BIOCH 765.

Typically Offered
On sufficient demand

BIOCH 915 - Biomolecular Modeling

Credits: 3

Lectures on the basic principles and skills involved in computer modeling of biomolecules. Students will carry out projects that focus on practical aspects of utilizing publically available simulations and analysis tools to address questions in biochemical and biophysical research.

Repeat for Credit
N

Typically Offered
On sufficient demand

BIOCH 920 - Nucleic Acids

Credits: 3

Structure and function of nucleic acids: structures and properties of DNA, RNA, and chromatin; recombinant DNA techniques; mutagenesis and carcinogenesis; protein-nucleic acid interactions; structural influences on replication, transcription, translation, and regulation.

Repeat for Credit
Y

Requisites
Prerequisite: BIOCH 765.

Typically Offered
On sufficient demand

BIOCH 925 - Molecular Mechanisms of Aging

Credits: 3

An exploration of the molecular, biochemical, and genetic pathways that are conserved among species and are involved in aging and age-related diseases.

Repeat for Credit
Y

Typically Offered
On sufficient demand

BIOCH 930 - Proteins

Credits: 3

Lectures and readings on the chemical nature of proteins; fractionation; purification, structure, chemical and physical properties of proteins and amino acids.

Repeat for Credit
Y

Requisites
Prerequisite: *BIOCH 755 and BIOCH 765.

Typically Offered
On sufficient demand

BIOCH 935 - Biochemistry of Cell Regulation

Credits: 3

Integration of biochemical pathways and molecular mechanisms regulating cell growth, movement, differentiation, and death. Emphasis on molecular interactions and signaling cascades controlling gene expression, protein synthesis and folding, proteolysis, cytoskeleton, cell cycle, cell survival, and apoptosis.

Repeat for Credit
Y

Requisites
Prerequisite: BIOCH 765.

Typically Offered
Spring-Odd Years

BIOCH 950 - Advanced Topics in Protein Science

Credits: 3

Advances in protein biochemistry, including protein structure determination, dynamics, folding, stability, enzyme mechanism and regulation.

Repeat for Credit
Y

Requisites
Prerequisite: BIOCH 765

Typically Offered
Spring-Even Years

BIOCH 997 - Postdoctoral Research in Biochemistry

Credits: 1-12

Advanced level research in collaboration with a faculty member, involving projects in any area of biochemistry. Post-graduate training in first three years beyond doctorate.

Repeat for Credit
Y

Requisites
Prerequisite: Ph.D. or equivalent.

Typically Offered
Fall, Spring, Summer

BIOCH 999 - Research in Biochemistry II

Credits: 1-18

Research in biochemistry which may be used for preparation of the Ph.D.Thesis.

Note
Sufficient training for research undertaken.*Nonmajors lacking these prerequisites should obtain consent of instructor before enrollment.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BIOL 100 - Biology First-Year Orientation

Credits: 1

Each meeting of Biology Freshman Seminar covers a topic related to student success, including student help sources such as tutoring and academic coaching, the Career Center, student involvement opportunities within the Division of

Biology (such as research), the university, and community. In addition, students develop a graduation plan after going over degree requirements and gain competency in navigating KSU online resources.

Repeat for Credit
N

Typically Offered
Fall

BIOL 101 - Concepts of Biology

Credits: 4

Fundamental concepts in evolutionary biology, ecology, cell biology, genetics, biodiversity, and the scientific method. The role of biology in society and the development of skills aimed at differentiation of biological fact from fiction are emphasized and explored.

Note
Concepts of Biology is an introductory biology course with a lab, and is intended for non-science majors.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
4 Natural and Physical Sciences

K-State 8
Natural and Physical Sciences

BIOL 198 - Principles of Biology

Credits: 4

An introductory biology course with emphasis on understanding processes and linkages within and between different levels in the hierarchy of life. Specific areas covered include the scientific method, evolution, ecology, biological molecules, structure/function of cells, genetics, energy flow, biodiversity, and plant/animal biology. BIOL 198 is required in many science degree programs.

Note
Two two-hour studio sessions incorporating lecture and lab elements. At least one year of high school biology or chemistry is recommended.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

BIOL 221 - Organismic Biology

Credits: 5

A study of the structure and function of organisms with special attention paid to the phylogenetic origins of taxonomic groups and the integration of their structural systems.

Note
Three hours lecture and four hours lab.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198 or equivalent.

Typically Offered
Fall, Spring

K-State Core
4 Natural and Physical Sciences

K-State 8
Natural and Physical Sciences

BIOL 245 - Principles of Histology

Credits: 2

Introduction to the field of histology including methods of sample preparation, embryonic and fetal development of tissues, structure of primary tissues in fully formed vertebrate body, and examination of those primary tissue types in a variety of organs.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198 or equivalent recommended.

Typically Offered
Summer

BIOL 255 - General Microbiology

Credits: 4

Microorganisms; their handling, morphology, growth, and importance.

Note
Two hours lecture and four hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198 and one course in chemistry.

Typically Offered
Fall, Spring

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

BIOL 263 - Ecology of Environmental Problems

Credits: 3

Principles of ecology and their application to such problems as pollution, human population growth, and land-use planning.

Note
Two hours lecture and one hour discussion a week.

Repeat for Credit
N

Requisites
Prerequisite: One course in natural science.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Natural and Physical Sciences

BIOL 330 - Public Health Biology

Credits: 3

Fundamental concepts of human infectious and organic diseases with emphasis on disease etiology and mechanisms, collection of epidemiological data, and the influences upon, and consequences of, governmental public health policy.

Note
Two hours lecture and one hour recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: One course in a natural science.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Natural and Physical Sciences

BIOL 333 - Introduction to Fisheries, Wildlife, Conservation and Environmental Biology

Credits: 3

An introduction to the ecological and management principles associated with the fields of fisheries, wildlife, conservation, and environmental biology. Topics include population ecology and assessment, resource management, and environmental legislation. Prepares FWCEB majors for more advanced coursework and promotes the understanding of natural resource management for non-majors.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198.

Typically Offered
Spring

BIOL 365 - Practicum in Biology

Credits: 1-4

Supervised experience as a teaching assistant in biology courses. Approximately 3 hours of commitment per week is expected for each credit hour earned. One hour recitation a week plus three to nine hours lab a week.

Note
Permission of instructor and credit with superior performance in the course in which the student will be involved.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BIOL 397 - Topics in Biology

Credits: 1-6

Special course offering in an area of faculty expertise and/or supervised independent study project.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BIOL 398 - Principles of Genetics

Credits: 4

An introduction to classical, molecular, quantitative, and population genetics. Human examples and comparisons between prokaryotic and eukaryotic genetics are emphasized. Topics include Mendelian inheritance, DNA and chromosome structure, cell division and DNA replication, gene expression, mutation, recombinant DNA, genomics, quantitative inheritance, and population/evolutionary genetic principles.

Note
Three hours lecture and one hour recitation.

Repeat for Credit
N

Requisites
Prerequisites: BIOL 198 and CHM 210 OR CHM 220 or concurrent enrollment. Concurrent enrollment in or completion of a college-level math or statistics course is recommended.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

BIOL 399 - Honors Seminar in Biology

Credits: 1-3

Selected topics.

Note
Open to non-majors in the honors program.

Repeat for Credit
Y

Typically Offered
Spring

BIOL 410 - Biology of the Cancer Cell

Credits: 3

Current concepts of cancer biology including roles of mutation, cell division, apoptosis, stem cells, microbes, and the immune system in promoting and/or inhibiting cancer.

Repeat for Credit
N

Requisites
Prerequisite: Two courses in biology (BIOL 398 recommended).

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

BIOL 432 - Wild Bird Research

Credits: 3

Hands-on training in both field methods involving the

capture, handling, measurement, and sampling of wild birds as well as training in data manipulation, analysis in R, visualization, collaboration, and presentation of original research. Requires weekend participation once monthly. Assessment based on completion of assignments and project components as well as effort and progress in learning field methods.

Note
Note – 2-hour, Friday morning class sessions weekly; 3 consecutive mornings (Fri-Sat-Sun) in the field each month. Consent of instructor

Repeat for Credit
N

Typically Offered
Spring

BIOL 435 - Environmental Biology

Credits: 3

An exploration of biological aspects, particularly ecological and evolutionary, as related to environmental issues. Topics include toxicology, global environmental issues, eutrophication, genetically modified organisms, emerging diseases, conservation, and relationship of human nature to causes of and solutions for environmental issues.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198, CHM 110 or 210.

Typically Offered
Spring

BIOL 441 - Human Body I

Credits: 4

Human anatomy with an introduction to human physiology. Examination of cadavers, dissection of specimens, use and interpretation of EKGs, myelograms, and radiographs.

Note
Three hours of lecture and two hours of lab per week.

Repeat for Credit
N

Requisites
Prerequisites: BIOL 198, CHM 110/CHM 111 OR CHM 210, BIOL 398 Principles of Genetics OR PHYS 214 Engineering Physics II OR KIN 220 Biobehavioral Basis of Physical Activity OR any biology course with a lab component and BIOL 198 as a prerequisite, AND Sophomore standing. Recommended: Strongly recommended that students receive Bs or better in all prerequisite courses. It is also strongly recommended that transfer students complete at least one K-State Biology class before enrolling in BIOL 441.

Typically Offered
Fall, Spring

K-State Core
4 Natural and Physical Sciences

BIOL 442 - Human Body II

Credits: 4

Human physiology with a review of anatomy from Human Body I.

Note
Three hours of lecture and two hours of lab per week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 441.

Typically Offered
Fall, Spring

BIOL 443 - Applied Anatomy of Cadavers

Credits: 3

Course with lab components and teaching support in Human Body I (HB I; BIOL 441) lab. Consists of brief lectures, dissections, reviewing material, exams, a final (autopsy report), and teaching support for anatomical demonstrations to HB I students. Objectives are: to develop cadaver dissection competence, to aid in a deeper understanding of anatomy and physiology, and to enhance critical thinking and teaching efficacy skills.

Repeat for Credit
N

Requisites
Prerequisite: Have earned a B or better in Human Body I (BIOL 441).

Typically Offered
Fall, Spring

BIOL 461 - Phage Hunters I

Credits: 3

Isolate bacteriophages from soil samples collected. Conduct electron microscopy, isolate bacteriophage DNA, and submit bacteriophage genomes for sequencing.

Note
One hour lecture and three hours lab per week.

Repeat for Credit
N

Typically Offered
Fall

BIOL 462 - Phage Hunters 2

Credits: 2

Analyze the genomes through bioinformatics and submit the collected data to Howard Hughes Medical Institute (HHMI) and GenBank.

Note
One hour lecture and three hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 461

Typically Offered
Spring

BIOL 495 - Topics in Biology

Credits: 1-6

Supervised independent study project and/or special course offering in an area of faculty expertise.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

BIOL 496 - Honors Tutorial in Biology

Credits: 1-3

Individual directed research and study of a topic in biology, normally as a prerequisite to writing a senior honor thesis.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing, membership in the honors program of the College of Arts and Sciences, and permission of instructor.

Typically Offered
Spring

BIOL 497 - Honors Project

Credits: 3

Open only to Arts & Sciences students who are active members of the University Honors Program.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BIOL 500 - Plant Physiology

Credits: 3

Detailed consideration of physiological processes of higher plants.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198 and BIOCH 265 or another course in organic chemistry.

Typically Offered
Fall

BIOL 501 - Plant Physiology Lab

Credits: 1

Lab related to physiological processes of higher plants.

Note
Three hours of lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Concurrent or previous enrollment in BIOL 500.

Typically Offered
Fall

BIOL 504 - Plant Ecology

Credits: 3

Study of the diversity and distribution of vegetation, relationships of plants to their physical environment, plant-animal-microbe interactions, population structure and dynamics, and plant community structure diversity, and succession. Field exercises focusing on methods of grassland and forest vegetation sampling and analysis.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198 and BIOL 221 or equivalent.

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

BIOL 510 - Developmental Biology

Credits: 3

Introduction to the stages and mechanisms of embryonic animal development. Integrated approach that includes classic experimental embryology and the genetic and molecular regulation of invertebrate and vertebrate animal development.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 398.

Typically Offered
Spring

BIOL 511 - Developmental Biology Laboratory

Credits: 1

Developmental Biology Laboratory

Note
One three-hour lab a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 510 or concurrent enrollment.

Typically Offered
On sufficient demand

BIOL 513 - Physiological Adaptations of Animals

Credits: 4

Integration of physiological mechanisms as the basis for adaptive responses of animals to different environments.

Note
Three hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 221; and a course in organic chemistry

or biochemistry.

Typically Offered
Fall

BIOL 515 - Behavioral Ecology

Credits: 3

Study of the social, environmental, genetic, and evolutionary processes that affect animal behavior. Topics include: evolution of social organization, spacing and group behavior, mating systems and parental care, sexual selection, communication, aggression, habitat selection, and foraging. Research project required.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198.

Typically Offered
Spring

BIOL 520 - Evolution

Credits: 3

A study of the theory of evolution including its historical and social implications.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 398 or a course in genetics.

Typically Offered
Spring

BIOL 521 - Evolution of Infectious Diseases

Credits: 3

The interplay of ecological interactions, evolutionary dynamics, and the mechanisms of host-microbe and microbe-microbe interactions shape the emergence and impact of infectious diseases. An interactive approach examines relationships among these factors. Key topics of discussion will include zoonotic infections, emerging infectious diseases, the spread of antimicrobial resistance, and the impact of public health measures.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 398 or BIOL 255 or ASI 500.

Typically Offered
Spring

BIOL 529 - Ecology

Credits: 3

Interdisciplinary examination of organisms and their interaction with the environment, ecosystem structure and function, population ecology and demography, community structure and dynamics, and basic ecological principles and their relevance to contemporary environmental issues.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198 and CHM 210.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

BIOL 530 - Pathogenic Microbiology

Credits: 3

Etiology and descriptions of major infectious diseases of humans within the perspective of host defenses.

Note
Two hours lecture and one hour laboratory-demonstration a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 255.

Typically Offered
Fall

BIOL 541 - Cell Biology

Credits: 3

Structure and function of cells and subcellular components. A molecular understanding of membranes and cellular physiology will be emphasized.

Note
Three hours lecture.

Repeat for Credit
N

Requisites
Prerequisite: (BIOL 398 or ASI 500) and (CHM 350 or CHM 531).

Typically Offered
Fall, Spring

BIOL 542 - Ichthyology

Credits: 3

Systematics, morphology, physiology, distribution, and natural history of fishes.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 221.

Typically Offered
Spring-Even Years

BIOL 543 - Ornithology

Credits: 3

Classification, morphology, physiology, distribution, and natural history of birds.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 221

Typically Offered
Spring

BIOL 544 - Mammalogy

Credits: 3

Characteristics, evolution, life histories, and ecology of mammals, especially North American game species.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 221.

Typically Offered
Fall

BIOL 545 - Human Parasitology

Credits: 3

Protozoan and helminth parasites of humans with lesser emphasis on ectoparasitic arthropods. Emphasis on life cycles, control, and laboratory diagnosis.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198.

Typically Offered
Spring

BIOL 546 - Human Parasitology Laboratory

Credits: 1

Examination of prepared materials and identification of internal parasites of man.

Note
Two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Concurrent enrollment in BIOL 545.

Typically Offered
Spring

BIOL 551 - Taxonomy of Flowering Plants

Credits: 4

Morphology, taxonomy, and biogeography of the vascular plants.

Note
Two hours lecture and two three-hour labs a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 221.

Typically Offered
Fall

BIOL 580 - Molecular Biology of Genes and Genomes

Credits: 3

The molecular biology of eukaryotic gene expression and genome function, with an emphasis on gene expression as a regulated process. Selected topics in recombinant DNA and biotechnology, focusing on topics central to a modern understanding of gene regulation.

Note
Three hours of lecture a week.

Repeat for Credit
N

Requisites
Prerequisites: BIOL 398 and CHM 350.

Typically Offered
Fall

BIOL 604 - Biology of the Fungi

Credits: 3

An introduction to fungal structure, function, physiology, ecology, and genetics. Importance of fungi as disease organisms, as saprotrophs, and in industry. Techniques of isolation, cultivation, and as experimental organisms.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198.

Typically Offered
Fall

BIOL 607 - Human Genetics

Credits: 3

An exploration of human genetics from a molecular perspective, grounded in clinical applications. Provides theoretical knowledge and practical skills in human genome analysis, emphasizing the analysis of case studies and molecular diagnostics techniques. Through a combination of lectures, hands-on laboratory exercises, and discussions, students will examine the implications of genetics and genomics for medicine, clinical diagnostics, genetic counseling, and related fields.

Note
One hour of lecture and two two-hour lecture/labs per week.

Repeat for Credit
N

Requisites
Prerequisites: BIOL 398 Principles of Genetics OR ASI 500 Genetics, and Junior standing.

Typically Offered
Spring

BIOL 609 - Cellular and Molecular Biology of Human Diseases

Credits: 3

Fundamental basis of the major common non-infectious diseases and disorders affecting our society, with emphasis on the biochemical and molecular biological mechanisms by which the structures and functions of specific human tissues, organs and systems are altered.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 398 and BIOCH 521.

Typically Offered
Fall

BIOL 612 - Freshwater Ecology

Credits: 4

Basic ecological principles of aquatic environments and environmental applications. Plants and animals of local streams, rivers, ponds, and reservoirs are used to demonstrate the interaction of biological processes with the chemical and physical features of natural aquatic environments.

Note
Three hours lecture, three hours lab a week; two optional weekend field trips.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198 and CHM 110 or CHM 210.

Typically Offered
Fall-Even Years

BIOL 632 - Ecology Laboratory

Credits: 1

Laboratory and field experiences with ecological problems.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 529 and STAT 240 or equivalent.

Typically Offered
Spring

BIOL 636 - Cancer Therapy

Credits: 3

Current methods of cancer management with emphasis on the kinetic principles of chemotherapy and radiation therapy; diagnosis; surgical oncology; oncologic emergencies; adverse effects of cancer therapy; and the new therapies.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 398 and BIOCH 521.

Typically Offered
Spring

BIOL 640 - Population Biology

Credits: 3

An introduction to the theories of quantitative population biology including dynamics, demography and genetics. Emphasis on spatio-temporal variation within and among populations and species.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 398 and BIOL 529 and STAT 240.

Typically Offered
Fall

BIOL 642 - Principles of Conservation Biology

Credits: 3

Biological diversity and the factors contributing to loss of biodiversity. Scientific principles of biological conservation emphasizing the application of ecological theory and population genetics to the conservation of threatened populations, species and ecosystems.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 398 and BIOL 529.

Typically Offered
Spring

BIOL 670 - Immunology

Credits: 3

Covers history and overview of the mammalian immune system, innate immunity, immunoglobulins, cytokines, immunological methods, complement system, T cell and B cell development and their differentiation, barrier immunity, vaccines, hypersensitivity reactions, autoimmunity, immunodeficiencies, and anticancer immunity.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 521 and BIOL 398 or ASI 500 with a C or better. BIOL 255 and BIOL 541 and senior standing are highly recommended.

Typically Offered
Spring

BIOL 671 - Immunology Lab

Credits: 2

Laboratory exercises in immunology.

Note
Three-hour lab a week plus one hour recitation.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 670 or concurrent enrollment.

Typically Offered
Spring

BIOL 675 - Genetics of Microorganisms

Credits: 3

The genetics of bacteria, viruses, and other microorganisms. Both the use of genetics in microbiological studies and the use of microbial systems to investigate basic genetic problems will be covered.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 398 and BIOL 255.

Typically Offered
Fall

BIOL 676 - Molecular Genetics Laboratory

Credits: 3

An advanced course in the techniques of molecular genetics and recombinant DNA technology, including molecular cloning, library screening, polymerase chain reaction, and RFLP and DNA sequence analysis. A number of projects will be completed during the semester.

Note
One-hour lecture and two three-hour labs.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 675 or concurrent enrollment.

Typically Offered
Fall

BIOL 682 - Fish Ecology

Credits: 3

The interaction between fish and their environment. Exploring fundamental ecological processes in aquatic systems at individual, population, community and ecosystem scales.

Note
Two hours lecture and three hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 529.

Typically Offered
Spring-Even Years

BIOL 684 - Wildlife Management and Techniques

Credits: 4

Concepts and techniques of wildlife ecology and management with emphasis on North American game species. Applied population dynamics as they relate to historical and recent developments in wildlife management, habitat improvement, and related material.

Note
Three hours lecture, one hour recitation, and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 333.

Typically Offered
Spring

BIOL 687 - Microbial Ecology

Credits: 3

The ecology of aquatic, terrestrial, animal and plant host-associated microorganisms in their natural environments.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 255 or BIOL 529.

Typically Offered
Spring

BIOL 695 - Internship in Biology

Credits: 1-3

Undergraduate internship in Biology pursued outside Kansas State University, allowing the student to gain experience in career-relevant work. A minimum of 45 hours spent in internship is expected for each credit hour in which a student is enrolled.

Note
This offering is coordinated through Biology's Office of Undergraduate Studies, and arrangements for enrolling and obtaining credit should be made prior to undertaking an internship. Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BIOL 696 - Fisheries Management and Techniques

Credits: 4

Historical and contemporary issues in the management and conservation of exploited fishes. Methods for managing fisheries resources in streams, lakes, and ponds including estimating abundances, quantifying age and growth, manipulating populations, modeling population dynamics, culturing fishes, and improving aquatic habitat.

Note
Three hours lecture and three hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 221 and BIOL 333.

Typically Offered
Fall-Even Years

BIOL 697 - Topics in Biology

Credits: 1-6

Special course offering in an area of faculty expertise and/or supervised independent study project.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BIOL 698 - Research in Biology

Credits: 0-8

Undergraduate research project pursued under the direction of a faculty mentor. A minimum of 45 hours of research effort is expected over the semester for each credit hour the student is enrolled.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BIOL 699 - Undergraduate Seminar in Biology

Credits: 1

Attendance at seminars or journal clubs with topics of a biological nature. A summary and personal reflection on each meeting is submitted for course credit.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

BIOL 705 - Eukaryotic Genetics

Credits: 3

An integrated exploration of transmission genetics and molecular genetics of eukaryotic organisms. The focus will be on genetic model organisms and their contributions to our understanding of mechanisms of genetic transmission and exchange, mutagenesis, gene expression, and regulation of cell division and development. Modern approaches to genomic analysis will be discussed.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 398 and BIOCH 521.

Typically Offered
Fall

BIOL 707 - Advanced Cell Biology

Credits: 3

Selected current topics in cell biology which reflect recent advances in the field. Major topics include membranes and transport, protein sorting, signal transduction, cell adhesion and motility, cell cycle, apoptosis, and specialized cell functions.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 541.

Typically Offered
Fall

BIOL 730 - General Virology

Credits: 3

Theoretical and experimental basis of virology, with emphasis on how viruses manipulate cells to insure their own survival, mechanisms of virus replication, principles of virus host interactions including how viruses cause disease, and selected medically relevant viruses.

Repeat for Credit
N

Requisites
Prerequisite: Twelve hours of biological sciences, including

BIOL 398 and BIOL 255; and BIOCH 521 or equivalent; consent of instructor.

Typically Offered
Spring

BIOL 734 - Introduction to Genomics and Bioinformatics

Credits: 4

A problem solving approach to understanding genomics and bioinformatics. Practical use of databases and web-based tools used to study biological problems. Introduction to the algorithms behind these tools.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 398 or CIS 575.

Typically Offered
Other

Cross-listed
CIS 734

BIOL 743 - Advanced Ornithology

Credits: 3

Organized conceptually around the rapid decline of the continent’s avifauna. Following an introductory module introducing the declines, the material is put in context, covering historic and geographic contexts, morphology and physiology, our local avifauna, tools & approaches in ornithology, birds in a changing world, behavioral diversity, and solutions to the problems faced by birds, globally.

Repeat for Credit
N

Requisites
Prerequisite: Open to all students enrolled in MS or PhD program in Biology or related fields.

Typically Offered
Spring

BIOL 805 - Advanced Mycology

Credits: 3

Study of fungi, with emphasis on structure, identification, classification, phylogeny, and economic importance.

Note
One hour lecture and six hours lab a week.

Repeat for Credit
Y

Requisites
Prerequisite: BIOL 604.

Typically Offered
Spring-Odd Years

BIOL 807 - Human Genetics

Credits: 3

An exploration of human genetics from a molecular perspective, grounded in clinical applications. Provides theoretical knowledge and practical skills in human genome analysis, emphasizing the analysis of case studies and molecular diagnostics techniques. Through a combination of lectures, hands-on laboratory exercises, and discussions, students will examine the implications of genetics and genomics for medicine, clinical diagnostics, genetic counseling, and related fields.

Note
One hour of lecture and two two-hour lecture/labs per week.

Repeat for Credit
N

Requisites
Prerequisite: A genetics course and graduate standing.

Typically Offered
Spring

BIOL 808 - Mechanisms of Gene Regulation

Credits: 3

Examines important concepts in the mechanisms of gene regulation at the molecular and atomic levels. Focuses on gene regulation at the level of transcription, splicing and

translation and on diverse roles of RNA in catalysis, signaling and innate immunity.

Note
Composed of a lecture (2 hr) covering important concepts and a student recitation (1 hr) of scientific articles.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 541, or BIOL 705, or BIOL 707.

Typically Offered
Spring

BIOL 810 - Analysis of Ecological Gradients

Credits: 3

An introduction to analytical methods and conceptual approaches to evaluate patterns of communities across environmental gradients. Multivariate statistical techniques will be used to analyze data and quantify species abundance patterns in a variety of environments.

Repeat for Credit
Y

Typically Offered
Spring

BIOL 818 - Advanced Aquatic Ecology

Credits: 3

A study of advanced issues adn methodology in limnological sciences, including a workship on algal taxonomy, and an applied group project.

Note
Two lecture hours, two laboratory hours per week.

Repeat for Credit
Y

Typically Offered
Fall-Odd Years

BIOL 822 - Landscape Ecology

Credits: 4

Effect of spatial pattern on ecological processes. Course will emphasize how spatial complexity emerges and is maintained in ecological systems, the analysis of spatial pattern, scaling issues, the ecological consequences of spatial pattern and applications for conservation and ecosystem management in both aquatic and terrestrial systems.

Note
Two lecture hours, one discussion hour and three laboratory hours per week.

Repeat for Credit
Y

Requisites
Prerequisite: BIOL 529.

Typically Offered
Fall-Odd Years

BIOL 823 - Demographic Methods

Credits: 3

Theory and methods of quantitative approaches for the study of population dynamics. Advances in matrix methods and mark-recapture statistics will be emphasized.

Note
Two hours lecture and one hour studio per week.

Repeat for Credit
Y

Requisites
Prerequisite: BIOL 684 or BIOL 696.

Typically Offered
Fall-Even Years

BIOL 826 - Nutrient Dynamics

Credits: 3

The cycling of elements in ecosystems with emphasis on macronutrients such as nitrogen, phosphorous, and major cations, and the influence of variables such as acid rain on nutrient dynamics.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 529 and CHM 210.

Typically Offered
Spring-Odd Years

BIOL 830 - Advanced Virology

Credits: 3

In-depth readings and discussions of current topics in virology and the impact of viruses in medicine and biotechnology, with emphasis on recent research literature.

Repeat for Credit
Y

Requisites
Prerequisite: BIOL 730 or consent of instructor.

Typically Offered
Spring-Odd Years

BIOL 831 - Host-Pathogen Interactions

Credits: 3

Explores fundamental aspects of the mechanisms, ecology, and evolution of host-pathogen interactions. Students will have the opportunity to gain in-depth knowledge of these topics through reading, discussion, presentation, and writing exercises.

Repeat for Credit
N

Requisites
Prerequisite: Advanced undergraduate-level understanding of molecular biology/cell biology/ecology/evolution.

Typically Offered
Fall-Even Years

BIOL 835 - Cellular and Molecular Parasitology

Credits: 3

Biochemistry, immunology, and molecular biology of medically important eukaryotic parasites.

Note
Three hours lecture

Repeat for Credit
Y

Requisites
Prerequisite: BIOCH 521 or equivalent.

Typically Offered
On sufficient demand

BIOL 840 - Molecular and Cellular Immunology

Credits: 3

Discussions and readings covering the molecular and cellular interactions during innate and adaptive immune responses.

Repeat for Credit
Y

Requisites
Prerequisite: BIOL 670.

Typically Offered
Fall-Odd Years

BIOL 850 - Advanced Topics in Immunology

Credits: 1-2

Current research in immunology.

Repeat for Credit
Y

Requisites
Prerequisite: BIOL 670 and consent of instructor.

Typically Offered
On sufficient demand

BIOL 855 - Molecular Biology of Cellular Membranes

Credits: 3

Intensive discussions of molecular interactions between

proteins and lipids within cellular membranes, and the impact of these interactions on diverse cellular functions. Format is primarily group discussion of primary literature, with the goal of instilling the ability to think critically and evaluate published studies.

Repeat for Credit
Y

Requisites
Prerequisite: BIOL 541 and BIOCH 521.

Typically Offered
Fall

BIOL 860 - Modern Molecular Approaches

Credits: 3

An introduction to approaches and techniques used in the molecular analysis of biological systems, with a focus on modern molecular and cellular biological approaches. Format is primarily group discussion of primary literature, with the goal of instilling the ability to think critically and evaluate published studies.

Repeat for Credit
Y

Requisites
Prerequisite: BIOL 705 and BIOL 707.

Typically Offered
Spring

BIOL 863 - Professional Skills and Ethics

Credits: 3

An introduction for graduate students in the mechanics of becoming a scientist and professional biologist. Students actively participate in learning professional skills such as proposal writing and reviewing, professional oral and poster presentations,communicating science to the general public, abstract and manuscript preparation, and other topics. Ethical conduct in research and professional settings is discussed throughout the course.

Note
Offered every spring, meets twice a week for 1.5 hours. Required course for biology graduate students.

Repeat for Credit
Y

Typically Offered
Spring

BIOL 865 - Advanced Plant Ecology

Credits: 4

Advanced study of theory in population and community ecology as applied to higher plants.

Note
Emphasis on current research in plant population ecology, species interactions, community structure, and four hours lecture/recitation per week.

Repeat for Credit
Y

Requisites
Prerequisite: BIOL 529 or a plant ecology course.

Typically Offered
Fall-Even Years

BIOL 868 - Advanced Cellular and Developmental Biology

Credits: 3

Chemistry, structure, and function of cellular systems in growth, development, and reproduction.

Repeat for Credit
Y

Requisites
Prerequisite: BIOCH 755 or equivalent.

Typically Offered
Fall-Odd Years

BIOL 870 - Advanced Plant Systematics

Credits: 4

Taxonomy, phylogenetic inference and major themes in the evolution of vascular plants.

Note
Two hours lecture, one hour discussion, and three hours lab per week. Lab format will include individual or small group

research projects.

Repeat for Credit
Y

Requisites
Prerequisite: BIOL 551 and consent of instructor.

Typically Offered
Spring-Even Years

BIOL 875 - Evolutionary Ecology

Credits: 3

A study of the evolution of population, community, and ecosystem structure.

Note
Two hours lecture and one hour recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: BIOL 529.

Typically Offered
Spring-Odd Years

BIOL 886 - Confocal, Fluorescence and Light Microscopy

Credits: 3

An introduction to theories, functions and applications of confocal, fluorescence and light microscopy, and fluorescent molecules. Lab emphasis on students working on independent research projects requiring microscopy.

Note
Two hours of lecture and three hours of lab per week.

Repeat for Credit
Y

Typically Offered
Fall-Odd Years

BIOL 888 - Electron Microscopy Techniques

Credits: 3

Theory and techniques involved in using the transmission electron microscope for the study of biological materials. Includes individualized instruction on the operation of the Philips 201 electron microscope and techniques for processing biological samples.

Repeat for Credit
Y

Requisites
Prerequisite: Current participation in research requiring electron microscope.

Typically Offered
Fall-Even Years

BIOL 890 - Advanced Topics in Biology

Credits: 1-6

Advanced biology.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BIOL 891 - Advanced Problems in Biology

Credits: 1-8

Advanced Problems in Biology

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BIOL 895 - Graduate Seminar in Biology

Credits: 0-1

Attendance/participation in departmental research-related seminars.

Repeat for Credit
Y

Typically Offered
Fall, Spring

BIOL 898 - Master's Research in Biology

Credits: 1-9

Master's Research in Biology

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BIOL 997 - Postdoctoral Research in Biology

Credits: 1-12

Advanced-level research in collaboration with a faculty member, involving projects in any area of biology.

Repeat for Credit
Y

Requisites
Prerequisite: Ph.D. degree or equivalent.

Typically Offered
Fall, Spring, Summer

BIOL 998 - PhD Research in Biology

Credits: 1-18

PhD Research in Biology

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BIOL 999 - PhD Research in Microbiology

Credits: 1-18

PhD Research in Microbiology

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

BME 200 - Introduction to Biomedical Engineering

Credits: 3

Biomedical engineering addresses the application of engineering principles to challenges faced by the health care and life science communities. This course introduces students to the areas of study that comprise this broad field and provides students with guidance toward biomedical career opportunities. Topics of interest include the history of biomedical technology, medical devices, medical imaging, biomedical optics, biomechanics, biomaterials, tissue engineering, rehabilitation engineering, neural interfacing, prosthetics, assistive technology, telemedicine, home care, wearable devices, health care information technology, considerations for diverse populations, and medical ethics.

Note
Lecture.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Historical Perspectives
Human Diversity within the U.S.

BME 390 - BME Skill Development Experience

Credits: 2

This course will focus on habits of mind and practical skill development within laboratory environments that incorporate wet-laboratory equipment, electronic devices/instruments, and resources for handling biological tissue. The instructor will emphasize the proper use of personal protective equipment, safe work practices, and principles of chemical, biological, electrical, fire, and radiation safety. Students will learn fundamentals of sterile techniques and address the appropriate operation, cleaning, and maintenance of laboratory equipment, electronic

instrumentation, and electromechanical devices. Strategies for career development will be addressed in these contexts.

Note
1 hour lecture; 3 hours laboratory

Repeat for Credit
N

Requisites
Prerequisite: CHM 210 and BME 200

Typically Offered
Fall

BME 430 - Biomaterials

Credits: 3

This course provides an overview of interactions between materials and biological systems, techniques to assess biomaterial characteristics, and the role of biomaterial selection during the design of medical devices for select applications.

Note
2 hours lecture; 3 hours laboratory

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198 and CHM 230

Typically Offered
Fall

BME 432 - Introduction to Tissue Engineering

Credits: 3

Tissue engineering is an emerging biomedical engineering field that addresses the creation, repair, or improvement of human and animal tissue via the growth and adhesion of biomolecules, cells, and other biomaterials. This course introduces the field of tissue engineering with an eye toward improved human and animal health. Interdisciplinary topics include cells/tissue, biomaterials, organ scaffolds, transplantation, and clinical applications of tissue engineering. Students will explore application areas such as skin regeneration, cartilage repair, and organ transplantation.

Note
This 3 credit course consists of 2 credits of lecture plus 1 credit of laboratory (3-hour session).

Repeat for Credit
N

Requisites
Prerequisites: BIOL 198 and (BME 390 or BAE 346 or BIOL 255 or CHM 531)

Typically Offered
Fall

BME 451 - Biomechanical Engineering

Credits: 3

This course provides an introduction to the mechanics of biological tissues and systems at the macroscopic scale. It covers the structure and mechanics of biological tissue based on the principles of statics and dynamics, with an emphasis on bone, muscle, and connective tissue.

Note
Lecture.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198, MATH 222, PHYS 213.

Typically Offered
Spring

BME 470 - Biomedical Device Components

Credits: 3

This course addresses medical device hardware components: electronic and electromechanical circuits and sub-systems that in aggregate perform medical device functionality. Passive/active electronic components include LED emitters, diode circuits, transistor assemblies, operational amplifier configurations, filters, and power supplies. Medical devices such as ventilators, insulin pumps, pacemakers, defibrillators, and IV pumps will provide context for homework assignments and hands-on laboratory exercises.

Note

2 hours lecture; 3 hours laboratory

Repeat for Credit
N

Requisites
Prerequisite: ECE 519

Typically Offered
Spring

BME 490 - Undergraduate BME Design Experience I

Credits: 1

The undergraduate design courses are intended to be taken during the fall and spring semesters of each BME student's junior year. The first semester is designed for project selection and planning, and it includes a lecture component to cover important considerations such as human subject protections and electrical safety. The follow-on course, BME 491, will focus on the implementation of the design selected in BME 490.

Note
Lecture.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 214, BME 200 and Corequisite: BIOL 441 or KIN 360.

Typically Offered
Fall

BME 491 - Undergraduate BME Design Experience II

Credits: 2

The undergraduate design courses are intended to be taken during the fall and spring semesters of each BME student's junior year. Students will participate in the guided design of a BME project selected in the previous semester. The course includes a lecture/meeting once per week, as well as a scheduled three-hour lab time for students to work on their design.

Note
Lab and Lecture.

Repeat for Credit
N

Requisites
Prerequisite: BME 490 and (BIOL 441 or KIN 360).

Typically Offered
Spring

BME 575 - Clinical Systems Engineering

Credits: 3

This course addresses the creation and use of biomedical "systems of systems" as applied in various health care delivery scenarios, including hospitals, home care settings, and environments that employ personalized wearable systems. The material focuses on technical areas typically associated with the field of "clinical engineering," emphasizing the use of design standards that promote system interoperability and reconfiguration. Hardware/software interfacing and information management will be addressed from the sensor level to the level of the clinical enterprise. The course will also address human elements related to such systems (e.g., human factors, safety, medical ethics, training, etc.) as well as global technical, political, and sociological issues that may promote or hinder their use in different countries and cultures.

Note
Lecture.

Repeat for Credit
N

Requisites
Prerequisite: ECE 540 or equivalent.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

BME 590 - Senior Design Experience I

Credits: 3

The two-semester BME senior design experience is a culminating design sequence intended for the last two

semesters of each BME student's degree program. BME 590-the first course in that sequence-integrates practice in verbal/written communication skills with the initiation of a collaborative design project to emulate a professional technical environment. The course addresses engineering ethics, design theory, project management, team dynamics, and socio-economic considerations related to design.

Note
Lecture.

Repeat for Credit
N

Requisites
Prerequisite: BME 491, ECE 540, and ENGL 415

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

BME 591 - Senior Design Experience II

Credits: 2

The two-semester BME senior design experience is a culminating design sequence intended for the last two semesters of each BME student's degree program. BME 591-the second course in that sequence-addresses the implementation and demonstration of the project design initiated in BME 590. The course includes oral presentations for design reviews and technical documentation, where the latter addresses project plans; design operations, analyses, architecture, and requirements; design descriptions; and a user manual.

Note
Two hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: BME 590.

Typically Offered
Fall, Spring

BME 674 - Medical Imaging

Credits: 3

This course addresses various modalities of medical imaging as an extension of biomedical instrumentation. Methods for image data acquisition, processing, and display form the core for this course, which also addresses industry standards for image storage and transmission. Diagnostic applications for medical images are emphasized along with safety and ethics issues that relate to the acquisition and management of biomedical image data.

Note
Lecture.

Repeat for Credit
N

Requisites
Prerequisite: ECE 512.

Typically Offered
Spring

K-State 8
Natural and Physical Sciences

BUS 001 - Kansas Wesleyan Exchange Program

Credits: 1-6

Kansas Wesleyan Exchange Program

Repeat for Credit
Y

Typically Offered
Other

BUS 110 - Introduction to Business

Credits: 3

This course surveys the objectives, decisions, and activities within a business organization. Topics include a study of management responsibilities and controls, organizational structures, and marketing activities.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Social Sciences

BUS 251 - Financial Accounting

Credits: 3

Study of business topics such as alternative forms of business organizations; typical business practices; legal instruments such as notes, bonds, and stocks; and financial statements and analysis. The main objective is to develop the ability to provide information to stockholders, creditors, and others who are outside an organization.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

BUS 252 - Managerial Accounting

Credits: 3

This course outlines the use of internal accounting data by managers in directing the affairs of business and non-business organizations.

Repeat for Credit
N

Requisites
Prerequisite: BUS 251.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

BUS 315 - Supervisory Management

Credits: 3

An analysis of the responsibilities and work environment of a supervisor, with an examination of skills, practices, and concepts helpful in developing effective relations with people in today's changing environment.

Note
The course includes an international emphasis using South Asia as a case study.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 100

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

BUS 320 - Total Quality Management for Technology

Credits: 3

This course addresses the commitment of management and the organization as a whole to the cultural changes necessary to implement quality improvements throughout the organization. Topics include quality organization and philosophy, quality audit and ISO 9000 series, integration of functional areas, team building, management principles, quality costs, and other associated interactive facets of Total Quality Management. The main concern is to provide the student with a working knowledge of conventional TQM tools.

Note
Three hours recitation a week.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Empirical and Quantitative Reasoning

BUS 366 - Management with Information Technology

Credits: 3

A comprehensive view of the role of information technology in satisfying organizations' information

requirements. Problems and techniques concerning the management of responsive information systems with special attention to managers' use of systems outputs. Cases and hands-on exercises emphasizing the use of information systems in decision making, information gathering and organizing, use of modeling techniques, and presentation of information.

Repeat for Credit
N

Requisites
Prerequisite: Experience with PC software.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

BUS 390 - Foundations of Business Law

Credits: 3

A study of law as it relates to business, including court procedures and systems, contracts, torts, agency and employment law, and business crimes.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

BUS 400 - Marketing Techniques and Applications

Credits: 3

A general study of marketing principles which lead to the development of marketing strategy. A review of environmental influences and key analytical tools used in formulating marketing plans. Product or service design, distribution, pricing, and promotional programs.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Social Sciences

BUS 410 - Managerial and Project Economics

Credits: 3

Economic analysis of problems as applied to managerial decision making. Students consider the economic viability of solutions in engineering and a variety of other kinds of projects common in technology-oriented businesses.

Repeat for Credit
N

Requisites
Prerequisite: MATH 100.

Typically Offered
Fall

Cross-listed
MET 410

K-State 8
Social Sciences

BUS 420 - Management Perspectives

Credits: 3

Provides an introduction to the four basic managerial functions of planning, organizing, leading and controlling and their application to today's complex work environment. An emphasis is placed on the roles and responsibilities of managers that help them to successfully meet organizational objectives by effectively leading employees and optimizing processes.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Social Sciences

BUS 421 - Applied Operations Management

Credits: 3

Description and analysis of problems related to the output of goods and services, operations planning and control, and systems management.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

BUS 450 - Integrated Finance

Credits: 3

Study of the basic principles of finance, including discounted cash flow analysis, risk-return tradeoff, asset pricing models, and financial and real asset valuation. Applications of these concepts to the firm's investment and financing decisions and performance analysis will be discussed.

Repeat for Credit
N

Requisites
Prerequisite: BUS 251.
Corequisite: STAT 225 and ECON 110 or ECON 120.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

BUS 520 - Integrated Technology Management Capstone

Credits: 3

A capstone course which integrates the functional areas of business, including management, marketing, finance, accounting, operations and production. The course uses business strategy simulation and case studies to apply acquired knowledge across various areas of concentration for successful business management.

Repeat for Credit
N

Requisites
Prerequisite: Senior Standing.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

BUS 530 - Practices of Industrial and Labor Relations

Credits: 3

Basic course in industrial and labor relations. Broad coverage of the institution of collective bargaining and its environment, the goals and operation of labor unions, the impact of unions on management, and labor relations law.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall

K-State 8
Historical Perspectives
Social Sciences

BUS 531 - Strategic Human Resource Management

Credits: 3

This course provides an overview of the human resource systems and processes needed to achieve organizational effectiveness and strategic success. All key functional areas including human resource planning, staffing, performance management, employee development, and compensation are addressed.

Repeat for Credit
N

Requisites
Prerequisite: BUS 315 or BUS 420.

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

BUS 542 - Personal Selling and Sales Management

Credits: 3

Focuses on interpersonal communications between buyers and sellers, both oral and written. The mechanics and intricacies of personal sales presentations, which will be developed through practice.

Repeat for Credit
N

Requisites
Prerequisite: Concurrent enrollment: BUS 400.

Typically Offered
Spring

K-State 8
Social Sciences

CC 110 - Introduction to Computing

Credits: 2

An overview of the history of computers and programming. Famous historical figures and their impact in modern computing. Introduction to major topics in computer science such as artificial intelligence, high performance computing, cryptography, big data, cybersecurity, robotics, and more.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

CC 111 - Elements of Computer Programming

Credits: 1

Brief experience with computer programming concepts such as variables, data types, functions, conditionals, iteration, and collections.

Repeat for Credit
N

Requisites
Corequisite: CC 110. Students may enroll in CC courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring, Summer

CC 120 - Web Page Development

Credits: 3

The Internet, web browsers, and web-page-development technology: web-page design and implementation with Hypertext Markup Language (HTML), and CSS. Integration of program script into web pages. Introduction to graphics design, animation, and server utilization.

Repeat for Credit
N

Requisites
Prerequisite: CC 111 or CIS 116. Students may enroll in CC courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

CC 210 - Fundamental Computer Programming Concepts

Credits: 4

Basic concepts in developing computer programs: program structure and syntax, primitive data types, variables, control flow, iteration, simple algorithms, debugging, and good software development practices. Introduction to object-oriented programming.

Repeat for Credit
N

Requisites

Prerequisite CC 111. Students may enroll in CC courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

CC 310 - Data Structures and Algorithms I

Credits: 3

Exploration of data structures & related algorithms in computer programming. Basic concepts of complexity analysis. Object-oriented design concepts.

Repeat for Credit
N

Requisites
Prerequisite: MATH 100 and CC 210. Students may enroll in CC courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring, Summer

CC 315 - Data Structures and Algorithms II

Credits: 3

Advanced data structures and related algorithms. Formal software development methods and software engineering fundamentals. Introduction to requirements analysis processes that provide the specification of algorithmic requirements.

Repeat for Credit
N

Requisites
Prerequisite: CC 310. Students may enroll in CC courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring, Summer

CC 410 - Advanced Programming

Credits: 4

Advanced programming techniques and projects. Concepts from simulation and modeling, media applications, secure design, information management, parallelism, and networking. Software development methodologies, processes, and design patterns. Practical experience with professional communication and collaboration.

Repeat for Credit
N

Requisites
Prerequisite: CC 310. Students may enroll in CC courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring, Summer

CC 510 - Computer Systems Administration

Credits: 3

Administration of the Windows and Linux operating systems, including installation, configuration, distributed file systems, firewalls and security, shell scripting, and user account management. Introduction to managing cloud computing resources.

Note
Not available for credit to students with credit in CIS 527.

Repeat for Credit
N

Requisites
Prerequisite: CC 310. Students may enroll in CC courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

CC 515 - Full Stack Web Development

Credits: 3

Fundamental principles and best practices of web development, user interface design, web API design, advanced web interfaces, web development frameworks, single-page web applications, web standards and accessibility issues.

Note
Permission to take this course concurrently with CC 410 may be granted to well-prepared students. Not available for credit to students with credit in CIS 526.

Repeat for Credit
N

Requisites
Prerequisite: CC 410 and either CC 120 or CMST 135. Students may enroll in CC courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring

CC 520 - Database Essentials

Credits: 3

Introduction to concepts and techniques in database management. Overview of relational databases, NoSQL databases, and related topics. Database programming and use of databases in applications. Theory and architecture of database management systems (DBMS).

Repeat for Credit
N

Requisites
Prerequisite: CC 410. Students may enroll in CC courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring

CC 535 - Applied Data Science

Credits: 3

An introduction to data science and discovery from data: Data wrangling, feature engineering, feature selection, statistical inference, correlations, principal component analysis, classification, regression, novelty detection, clustering, cross-validation, bootstrapping, class profiling, multidimensional scaling, association rules, visualization, data science and society.

Repeat for Credit
N

Requisites
Prerequisite: CC 210, and experience with the Python programming language. Students may enroll in CC courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

CC 590 - Special Topics in Applied Computer Science

Credits: 1-4

Selected topics in applied computer science.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CC 710 - Introduction to Computing for Educators

Credits: 2

This course is a first step in preparing educators to teach computer science topics at the PreK-12 level. It provides content area knowledge including the historical context in which computing developed, an overview of the modern field of computing and its impacts on society. It also explores theories of computational thinking and learning, computer science education research, and the Kansas PreK-12 computer science standards.

Note
For education majors only.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

CC 711 - Computer Education Programming Fundamentals

Credits: 1

This course introduces PreK-12 educators to the "Big ideas" of programming - concept knowledge that is critical

for developing and teaching programming skills. Students will learn to read simple program code, write short programs, and explore basic programming constructs such as conditional statements and iteration. Students will also explore basic programming concepts related to a particular discipline.

Note
For education majors only.

Repeat for Credit
N

Requisites
Corequisite: CC 710

Typically Offered
Fall, Spring, Summer

CC 730 - Computer Programming for Educators

Credits: 4

The course introduces PreK-12 educators to computer programming using one of several programming languages. Interactive lessons and engaging projects reinforce new skills and concepts while exploring pedagogical strategies for teaching programming. This course covers the basic concepts of programming, from variables and control flow to functions, objects, and simple algorithms.

Note
For education majors only.

Repeat for Credit
N

Requisites
Prerequisite: B or better in CC 710 - Introduction to Computing for Educators and B or better in CC 711 - Introduction to Computing for Educators Lab

Typically Offered
Fall, Spring, Summer

CC 750 - Data Structures and Algorithms for Educators I

Credits: 3

This course provides PreK-12 educators the content knowledge necessary for teaching simple data structures such as sets, lists, stacks, queues, and maps. Students learn how to create data structures and the algorithms to work with them. Students are introduced to algorithm analysis to determine the efficiency of algorithms. It also addresses strategies for teaching these concepts to a diverse audience.

Note
For education majors only.

Repeat for Credit
N

Requisites
Prerequisite: B or better in MATH 100 - College Algebra and B or better in CC 730 - Computer Programming for Educators

Typically Offered
Fall, Spring, Summer

CC 755 - Data Structures and Algorithms for Educators II

Credits: 3

This course provides PreK-12 educators the content knowledge necessary for teaching advanced data structures, such as trees, graphs, and heaps, along with pedagogical approaches for teaching the associated concepts and skills. Several new algorithms using these data structures are covered. Students also learn software development methods and software engineering fundamentals and use those skills to develop projects of increasing size and scope effectively.

Note
For education majors only.

Repeat for Credit
N

Requisites
Prerequisite: B or better in CC 750 - Data Structures and Algorithms for Educators I or Instructor Permission

Typically Offered
Fall, Spring, Summer

CC 760 - Advanced Computing for Educators

Credits: 4

This course helps PreK-12 educators gain experience writing programs using a variety of advanced programming

techniques including object-oriented programming, inheritance, and events. It also introduces software development methodologies, processes, and design patterns, along with pedagogical strategies to teach them. It also emphasizes collaboration skills and tools used by professional programmers.

Note
For education majors only.

Repeat for Credit
N

Requisites
Prerequisite: B or better in CC 755 - Data Structures and Algorithms II for Educators or Instructor Permission

Typically Offered
Fall, Spring, Summer

CC 798 - Topics in Computing for Educators

Credits: 1-18

Topics in Computing Education for PreK-12 educators. Topics will be determined by faculty.

Note
For education majors only. Instructor permission.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CDPLN 612 - Indian Country Agriculture and Natural Resources

Credits: 3

An introduction to the historical and contemporary issues related to natural resource management on Native American lands. Study will include a variety of ecological settings across Native American lands, along with an analysis of tribal sovereignty as it relates to land tenure and water rights. Arguments concerning natural resource conservation, preservation and extraction will be explored.

Repeat for Credit
N

Requisites
Prerequisite: CDPLN 714.

Typically Offered
Summer

CDPLN 613 - Youth Development in Native Communities

Credits: 1

Focus on contemporary issues impacting native youth including: Demographics (Criminal justice, early parenting, poverty, education, suicide and morbidity), identity formation (risky behavior and achievement opportunities), health care (diabetes, obesity, fetal alcohol), prevention activities (4H, BGC, horse clubs, running strong), and influx of youth leadership (youth-elder connections).

Repeat for Credit
N

Requisites
Prerequisite: CDPLN 714.

Typically Offered
Fall, Spring, Summer

CDPLN 614 - Wellness in Native Communities: Challenges and Opportunities

Credits: 1

Healthcare issues challenging Native communities, and strategies and practices to address those challenges. Focus on the impact of the Indian Health System, other bureaucratic systems, and current consumer practices that impact healthcare for Native peoples and the ways tribes are working to create healthier communities and improve the lifestyle of Indian people.

Repeat for Credit
N

Requisites
Prerequisite: CDPLN 714.

Typically Offered
Fall

CDPLN 615 - Role of Tribal Colleges in Economic Development

Credits: 1

Focus: the role of tribally-chartered colleges/universities in economic development within Native communities. Topics include the use of bonding/bridging social capital, the historical and contemporary case for tribally-chartered higher education, the economic impact of tribal colleges on their local economies, and opportunities/challenges of broad and diverse collaborative networks.

Repeat for Credit
N

Typically Offered
Summer

CDPLN 620 - Ecological Economics

Credits: 3

Synthesis across the notion of "utility" as represented in environmental/natural resource economics, as well as the notion of "ecology" in ecological economics. Focus will be on the influence the community and ecosystem have on one another, and the potential for complementarity between the two.

Repeat for Credit
N

Typically Offered
Fall

CDPLN 622 - Impact Analysis

Credits: 1

The basics of economics and fiscal impact analysis are explored, including the scenario construction, basics of input-output analysis, careful use of multipliers, estimations of local revenues and expenditures and discounting.

Repeat for Credit
N

Typically Offered
Spring

CDPLN 623 - Local Economic Analysis

Credits: 1

This course teaches economic base theory, a theory of regional economics, multipliers and how local economics are affected by external events. Basic methods for the analysis of a local economy are covered, including trend analysis, location quotients, shift share analysis and retail trade analysis.

Repeat for Credit
N

Typically Offered
Spring

CDPLN 624 - Community Developer as Community Educator

Credits: 3

A graduate level course on education strategies and tools for use in community development. This course will develop students' identities as community educators and provide knowledge on appropriate methodologies for working with adults in community settings as well as develop their creativity and critical thinking skills. Students will engage in peer-to-peer teaching and critical analysis of community education activities.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

CDPLN 625 - Participatory Action Research Methods (PAR)

Credits: 3

A graduate level course to develop participatory action research knowledge and skills through real-world applications. PAR is a method of collecting information by community members in collaboration with a researcher that respects, places community central to, and reflects the experiences and culture of the people most directly impacted by the issue under consideration.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

CDPLN 631 - Leadership for Change

Credits: 3

Course focus is on the role of leadership in community development and change, including situating leadership in the community development process, reviewing the effectiveness of different leadership styles, and relating leadership to community. Skills and processes that facilitate effective shared leadership, including facilitation, conflict resolution, use of participatory techniques, etc, are explained.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

CDPLN 633 - Grantwriting

Credits: 3

The intricacies of grantsmanship provide the focus of this course. Topics covered will include identification of fund sources, procedures for proposal preparation, composition of grants, and the effects of organizational and personal linkages. Students will prepare a grant application based upon an RFP or to a continuous funding source.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

CDPLN 650 - Community Economic Development for the 21st Century

Credits: 3

Study of the basic theories, concepts, and skills necessary to be a part of a productive community economic development team. Focus is on the importance of organizational values, mission and vision, as well as six approaches to development. The course will cover the five community functions, development strategies, action planning, and organizing for action.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

CDPLN 655 - Land Development Planning

Credits: 3

An examination of the process of land development in the United States, and its impacts from the perspective of developers, financial institutions, community planners, and city administrators. Focus is on the understanding of the land development process in meeting community goals, and shaping land development to meet community expectations for the improvement of the community.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

CDPLN 660 - Policy and Politics of Coastal Areas

Credits: 3

One half of the world's population lives on a coast and two-thirds of the world's largest cities are located on a coast. This course addresses the environmental, land use, and other critical issues affecting these areas worldwide.

Repeat for Credit
N

Typically Offered
Summer

CDPLN 700 - Foundations of Community Development

Credits: 3

This course is an introduction to the Community Development (CD) program, discipline, and profession.

Repeat for Credit
N

Typically Offered
Fall, Spring

CDPLN 701 - Special Studies in Community Development

Credits: 1-3

Independent study on special topics of interest in community development.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CDPLN 702 - Community Engagement

Credits: 3

This course is designed to help students add to their knowledge base and build their confidence in community engagement so that dialogue and deliberations leading to public decision making can be more productive and positive for everyone involved.

Repeat for Credit
N

Typically Offered
Fall-Odd years

CDPLN 703 - Applied Community Development

Credits: 1-3

This course provides students the opportunity to apply knowledge to professional practice. Students will produce a written report on a project of focus, which they have worked on directly, relating their experience to concepts and skills learned through the community development curriculum. Projects must exist at the time of the course and may consist of activities via internships, coursework or capstones outside of the community development curriculum, or personal interests.

Repeat for Credit
Y

Requisites
Prerequisite: Admission to the Master of Science in Community Development program or enrollment in Graduate Certificate in Community Development program and instructor permission. All others contact gpideacc@ksu.edu.

Typically Offered
Fall, Spring, Summer

CDPLN 704 - Community Leadership and Capacity Building

Credits: 3

Explorations of the various approaches to leadership and leadership development, evaluation of leadership projects and the relationship of leadership to community capacity building. Topics include defining leadership and applying it to the workplace, and understanding the potential link between leadership and community capacity, as well as identifying strategies for leadership development in communities.

Repeat for Credit
N

Typically Offered
Fall

CDPLN 705 - Organizing for Community Change

Credits: 3

Examination of the role of society in community planning efforts. Focus on change within communities and the roles of government, planners, and citizens in reacting to or shaping change. Dimensions of social capital and the context of change and the implications of economic and demographic shifts on strategies and tactics for change will be explored.

Repeat for Credit
N

Typically Offered
Summer

CDPLN 706 - Economic Development Strategies and Programs

Credits: 3

Course explores theories of local economic development and addresses the development issues faced by communities in the 21st century. Students will understand and apply concepts from economic development planning, economic analysis, business development, human resource

development, community-based development, and high-technology development.

Repeat for Credit
N

Typically Offered
Fall-even years

CDPLN 707 - Evaluations of Organizations and Programs

Credits: 3

This course is an introduction to philosophy, techniques, and methodologies of organizational and program evaluation. Topics covered in the course include overview of program evaluation and theory, techniques to evaluate program processes and performance, evaluation designs, assessing program efficiency, models to diagnose organizations, and methods to assess organizational performance.

Repeat for Credit
N

Typically Offered
Spring-Even Years

CDPLN 708 - Government, Politics and Community Development

Credits: 3

Introduction to classical and contemporary concepts of federalism, public administration, public policy, and politics with an emphasis on their bearing on community development activities and outcomes.

Repeat for Credit
N

Typically Offered
Spring

CDPLN 709 - Housing and Development Programs

Credits: 3

In this course, students review and evaluate historical and current housing issues, production, and financial systems. This includes consideration of racial, ethnic, income, and gender issues as they relate to the role of housing developments and programs in community development.

Repeat for Credit
N

Typically Offered
Spring-Odd Years

CDPLN 710 - Community Analysis

Credits: 3

An introduction to research methods relevant to community development. Topics include how to formulate and begin a research effort, methods of data collection and how conceptual frameworks are used to develop the questions and analyze data. Also included are strategies for reporting findings and applying findings in community action.

Repeat for Credit
N

Typically Offered
Spring

CDPLN 711 - Immigrants in Communities

Credits: 3

International migration has historically impacted rural and urban communities around the world. Taking a comparative approach, this course examines community-immigrant interactions and influences on community development and immigrant inclusion. Readings relate theories of immigrant and community change to case studies. Students will gather primary data to assess the capacity of communities to include new international immigrants.

Repeat for Credit
N

Typically Offered
Summer-Odd Years

CDPLN 712 - Sustainable Communities

Credits: 3

The management of natural capital as linked to other community-based actions around resource allocation and the impacts on quality of life. The literature on community-

based natural resource management will be examined and alternative ways of valuing natural capital will be assessed. Contrasting theories of the role of natural capital in communities.

Repeat for Credit
N

Typically Offered
Fall

CDPLN 713 - Nonprofit Management

Credits: 3

Managing nonprofits including the role of nonprofit organizations in addressing various social problems. Topics include individual giving/volunteering, board and executive leadership, government and nonprofit relationship, ethics and accountability, and issues and challenges in nonprofit management.

Repeat for Credit
N

Typically Offered
Summer-Even Years

CDPLN 714 - Introduction to Native Community Development

Credits: 3

This develops a basic understanding within the context of community development of the diversity of tribal structures and cultures and the unique history and jurisdictional considerations of these nations.

Repeat for Credit
N

Typically Offered
Fall-even years

CDPLN 715 - Principles and Strategies of Community Change

Credits: 3

An analysis of the principles and practices of community change and development, using case studies and the students' communities of reference. the course will relate Community Development approaches to conceptual models from diverse disciplines. Conceptual models include conflict, neo-classical economic growth, participatory democracy, and others.

Repeat for Credit
N

Typically Offered
Fall

CDPLN 716 - Building Native Communities and Economic Capacity

Credits: 3

This course will focus on non-western approaches to helping native communities build their capacity. Students will learn to take a participatory, culture-centered, and strength-based approach to development.

Repeat for Credit
N

Typically Offered
Spring-Even Years

CDPLN 720 - Community and Regional Economic Analysis

Credits: 3

The course introduces concepts of communities and regions, theories of economic growth, drivers of economic growth, the economic base of a community, sources of growth or decline in the community, roles of local government and institutions, analytical tools, and strategies for local economic development.

Repeat for Credit
N

Typically Offered
Fall

CDPLN 721 - Community and Regional Economic Analysis II

Credits: 3

This course will develop a substantive grounding in the theories and practice of measuring community economic

dynamics plus build solid foundation skills for applied community economic analysis. Elements include basic descriptive tools of community economic analysis, such as economic base evaluation, industrial mix analysis, trade area assessment, and industrial and occupational composition analysis, input-output industrial accounting for economic impact analysis and the development of fiscal impact assessment techniques, and measures of public policy effectiveness.

Repeat for Credit
N

Typically Offered
Summer

CDPLN 725 - Community and Natural Resource Management

Credits: 3

An introduction to the breadth of consideration involved in community resource management. Included are theoretical frameworks, methodological investigation and applied practices to enhance the ability of community development professionals to work with their communities to plan, develop, and monitor the conversion and development of natural resources with multiple functions.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

CDPLN 880 - Topics in Community Development

Credits: 1-3

Independent study of selected concepts and trends in community development. Students electing this course offering will be preparing a specialization paper as their final project.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CDPLN 897 - Proposal Writing

Credits: 1

Development of a master's report or thesis proposal.

Repeat for Credit
N

Requisites
Recommended prerequisite: completion of a minimum of 30 credit hours in the Community Development program.

Typically Offered
Fall, Spring, Summer

CDPLN 899 - Research in Community Development

Credits: 0-18

Original research and advanced study in community development, and related fields for the master's report.

Repeat for Credit
N

Requisites
Prerequisite: CDPLN 880.

Typically Offered
Fall, Spring, Summer

CE 015 - Engineering Assembly

Credits: 0

Engineering Assembly

Repeat for Credit
Y

Typically Offered
Fall, Spring

CE 101 - Introduction to Civil Engineering

Credits: 1

Introduction to careers in civil engineering (construction, environmental geotechnical, structures, transportation, and water resources). Overview of CE educational requirements. History of the CE profession. Engineering ethics.

Note
One hour of lecture per week.

Repeat for Credit
N

Typically Offered
Fall

CE 201 - Civil Engineering Problem Solving I

Credits: 1

Analysis of data and numerical calculations including presentation of results of common civil engineering problems using Excel. Exposure to built-in functions, data presentation, solution techniques and macros will facilitate usage in other civil engineering classes.

Note
Two 75-minute lab meetings per week for one-half of an academic semester.

Repeat for Credit
N

Typically Offered
Fall

CE 202 - Civil Engineering Graphics

Credits: 3

This course will include drafting, technical sketching, projective geometry, multiview drawings, reading and interpreting drawings, sectioning, dimensioning, and computer aided design (CAD) including 3D to produce basic civil engineering drawings.

Note
Two hours of lecture and three hours of lab per week.

Repeat for Credit
N

Typically Offered
Fall, Spring

CE 212 - Elementary Surveying Engineering

Credits: 3

Coordinates, directions, distances, and elevation. transverses. boundary surveys. Leveling, national rectangular coordinate systems. property descriptions: public land subdivision and metes and bounds. Topographic surveys. surveying, planning, and estimating.

Note
Two hours of lecture and three hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 150.

Typically Offered
Fall, Spring

CE 241 - Introduction to Civil Engineering Materials

Credits: 3

Properties and behavior of structural metals, timber, portland cement concrete, and bituminous concrete; standard specification and methods of test; inspection and control. Topics support ACI Field Testing Technician certification.

Note
Two hours of lecture and three hours of lab per week.

Repeat for Credit
N

Typically Offered
Fall

CE 301 - Civil Engineering Problem Solving

Credits: 1

Analysis of data and numerical calculations including presentation of results of common civil engineering problems using Mathcad. Exposure to built-in functions, data presentation, solution techniques, symbolic calculations and structured programming will facilitate usage in other civil engineering classes.

Note
Two 75-minute lab meetings per week over half of an academic semester.

Repeat for Credit

N

Requisites
Prerequisite: "C" or better in DEN 161.

Typically Offered
Spring

CE 331 - Strength of Materials and Analysis

Credits: 3

Study of behavior of materials subjected to tension, compression, shear, and bending; analysis of beams and columns.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 231.

Typically Offered
Fall, Spring

CE 332 - Strength of Materials Laboratory

Credits: 1

Tests to determine the physical properties of various structural materials. Analysis and interpretation of test data.

Note
Three hours of lab per week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: CE 331.

Typically Offered
Fall, Spring

CE 333 - Statics

Credits: 3

Composition and resolution of forces; equilibrium of force systems; application of general laws of statics to engineering problems, including use of vector algebra, friction and force analyses of simple structures, cables, and machine elements; center of gravity; moments of inertia.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 221 and PHYS 213.

Typically Offered
Fall, Spring, Summer

CE 351 - Incompressible Fluid Mechanics

Credits: 3

Fundamentals of incompressible fluid mechanics and includes the topics of fluid properties; hydrostatics; applications of conservation of mass; energy and momentum equations; dimensional analysis; pipe flow; channel flow; and flow about immersed objects.

Repeat for Credit
N

Requisites
Prerequisites: "C" or better in CE 530 or "C" or better in ME 512

Typically Offered
Fall, Spring

CE 441 - Design of Civil Engineering Materials

Credits: 3

Apply principles first introduced in CE 241 to design of traditional and specialized concretes (such as high-performance concrete, self-compacting concrete, low-CO_2 concrete, internally-cured concrete, and RAP asphalt concrete); properties of concrete prepared using non-traditional cements; standardized testing to quantify long-term durability of concrete; planning experiments to minimize error variance and avoid bias.

Note
Two hours of lecture and three hours of lab per week.

Repeat for Credit
N

Requisites
Prerequisite: "C" or better in CE 241 and "C" or better in CE 534

Typically Offered
Spring

CE 497 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research projects.

Repeat for Credit
Y

Typically Offered
Fall, Spring

CE 499 - Honors Research in Civil Engineering

Credits: 1-18

Individual research problem selected with approval of faculty advisor. A report is presented orally and in writing during the last semester.

Note
Open to students in the College of Engineering honors program.

Repeat for Credit
Y

Typically Offered
Fall, Spring

CE 501 - Project Economic Evaluation

Credits: 1

Provides fundamental concepts of engineering economics and decision-making process among alternative engineering design and construction solutions through study of unit cost determination, cost estimating, and financing procedures.

Note
Two 50-minute lectures per week for half of an academic semester.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing for engineering majors or Senior standing for non-engineering majors.

Typically Offered
Spring

CE 502 - Project Management

Credits: 1

Fundamental concepts of project management. Construction planning and scheduling methodologies will be introduced.

Note
Two 50-minute lectures per week for half of an academic semester.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing for engineering majors or Senior standing for non-engineering majors.

Typically Offered
Fall

CE 503 - Project Delivery

Credits: 1

Fundamental concepts of project administration such as contracts, safety, and delivery methods. Construction project delivery methods such as Design-Bid-Build (DBB), Design-Build (DB), etc. will be discussed in detail and students will be introduced to construction estimating.

Note
Two 50-minute lectures per week for half of an academic semester.

Repeat for Credit
N

Requisites
Prerequisite: Junior Standing

Typically Offered
Spring

CE 522 - Soil Mechanics I

Credits: 3

Identification, classification, and engineering properties of soils; theory and application of consolidation, compressibility, and strength of soils; ground water retention and movement; slope stability and lateral earth pressures; stress distribution in soil.

Note
Two hours of lecture and three hours of lab per week.

Repeat for Credit
N

Requisites
Prerequisite: "C" or better in either CE 351 or ME 571 and "C" or better in CE 533.

Typically Offered
Fall, Spring

CE 528 - Foundation Engineering

Credits: 3

Prediction of soil variation, soil investigations; stress distribution and bearing capacity; dewatering analysis and procedures; retaining structures and lateral earth pressures; shallow foundations, pile foundations; underpinning and grouting.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: "C" or better in CE 522.

Typically Offered
Fall

CE 530 - Statics and Dynamics

Credits: 3

A shortened combined course in (1) statics, including a study of force systems, free-body diagrams, and problems in equilibrium, friction, centroids, and moments of inertia; and (2) dynamics, including a study of the kinematics and kinetics of particles and rigid bodies using the method of force-mass acceleration.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 222 and PHYS 213.

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences

CE 533 - Mechanics of Materials

Credits: 3

Elementary theories of stress and strain, behavior of materials, and applications of these theories and their generalizations to the study of stress distribution, deformation, and instability in the simple structural forms which occur most frequently in engineering practice.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: "C" or better in CE 333 or "C" or better in CE 530

Typically Offered
Fall, Spring, Summer

CE 534 - Mechanics of Materials Laboratory

Credits: 1

Determination of selected mechanical properties of several engineering materials, including iron-carbon alloys,

aluminum alloys, concrete, wood, and plastics; relationship between structure and mechanical properties of these materials; elementary problems in experimental stress analysis and structural behavior; test procedures, instrumentation, and interpretation of results.

Note
Three hours of lab per week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: CE 533.

Typically Offered
Fall, Spring

CE 537 - Introduction to Structural Analysis

Credits: 3

Elastic analysis of determinate and indeterminate beams, frames, and trusses; construction of shear and moment diagrams and influence lines; calculation of deflections using conjugate beam and virtual work; solution of indeterminate structures by slope-deflection, moment distribution, and matrix stiffness method; with microcomputer applications.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: "C" or better in CE 533.

Typically Offered
Fall, Spring, Summer

CE 542 - Structural Engineering in Steel

Credits: 3

Introduction to design of steel structures. Theoretical, experimental and practical bases for proportioning members and their connections.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: "C" or better in CE 537.

Typically Offered
Spring

CE 544 - Structural Engineering in Concrete

Credits: 3

A study of the theories of reinforced concrete and of its characteristics as a construction material; design of reinforced concrete structures.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: "C" or better in CE 537.

Typically Offered
Fall

CE 550 - Water Resources Engineering

Credits: 3

Introduction to: surface water hydrology, design of water handling structures, flood protection, pipe flow hydraulics, pump selection, and flow in soils.

Note
Two hours of lecture and three hours of lab per week. Not available for students with credit for BAE 560.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 213 and either STAT 510 or BAE 460

Typically Offered
Fall

CE 552 - Hydraulic Engineering

Credits: 3

Applications of the principles of fluid mechanics to control and use of water; reservoir, dam, and spillway design; enclosed conduit and open-channel design; hydraulic machinery and hydro-power development; principles of fluid measurement; laboratory-flow and velocity metering, hydraulic models, pipe losses, open-channel flow.

Note
Two hours of lecture and three hours of lab per week.

Repeat for Credit
N

Requisites
Prerequisites: "C" or better in either CE 351 or ME 571 and "C" or better in CE 550

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CE 563 - Environmental Engineering Fundamentals

Credits: 3

Basic physical, chemical, and biological concepts and the applications to the protection of the environment with emphasis on techniques used in water and wastewater treatment.

Note
Two hours of lecture and three hours of lab per week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 210 and MATH 221

Typically Offered
Fall, Spring

Cross-listed
ENVE 363

CE 565 - Water and Wastewater Engineering

Credits: 3

Design of municipal water and wastewater treatment systems.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: "C" or better in CE 550, "C" or better in either CE 351 or ME 571, and "C" or better in CE 563

Typically Offered
Spring

CE 571 - Introduction to Transportation Engineering

Credits: 3

Key principles in transportation engineering and their relevance to practice. Consideration of both multi-modal and sustainable solutions to transportation.

Note
Two 75-minute lectures per week.

Repeat for Credit
N

Requisites
Prerequisites: MATH 221, PHYS 213, and "C" or better in CE 212.

Typically Offered
Spring

CE 572 - Highway Engineering

Credits: 3

Apply highway design principles first introduced in CE 571. Develop CAAD skills necessary to enter the engineering workforce. Plan and propose multiple alternatives for a highway alignment. Design new highway alignments and intersections. Consider earthwork and how it influences highway design. Introduce pavement design as it applies to highway alignments and intersections.

Note

Two 50-minute lectures and one two-hour lab per week.

Repeat for Credit
N

Requisites
Prerequisite: "C" or better in CE 522 and "C" or better in CE 571.

Typically Offered
Fall

CE 585 - Civil Engineering Project

Credits: 3

A comprehensive civil engineering project, to be taken in the last semester of the B.S. program. Requires integration of skills acquired in civil engineering elective courses. Students must prepare and present written and oral design reports.

Note
One hour of lecture and six hours of lab per week.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 415 and "C" or better in two 3-hour CE design electives. Prerequisite or concurrent enrollment in the remaining required CE design electives. Students take CE 585 during their last planned semester of their B.S. program.

Typically Offered
Fall, Spring

CE 625 - Principles of Geoenvironmental Engineering

Credits: 3

Introduction to soil formation, structure, flow and mass transport in soils, mass transfer principles, waste containment and isolation, and physical, chemical, and biological remediation principles.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: CE 522.

Typically Offered
Spring

CE 654 - Design of Groundwater Flow Systems

Credits: 3

Introduction to fundamental, mathematical and physical concepts of groundwater flow; application of simple analytic models; introduction to field methods; application of computer modeling tools to address design with practical significance.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: CE 351 or ME 571

Typically Offered
Fall

CE 663 - Unit Operations and Processes in Environmental Engineering

Credits: 2

A laboratory study of various physical, chemical and biological operations and processes used in the professional practice of environmental engineering. Topics covered will be selected from reactor hydrodynamics, oxidation-reduction, coagulation-flocculation, chemical precipitation, ion exchange, adsorption processes, biological oxidation, anaerobic digestion and the activated-sludge process.

Note
Six hours of lab per week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: CE 565 and CE 552.

Typically Offered
Spring-Even Years

CE 680 - Economics of Design and Construction

Credits: 3

Selection of alternative engineering design and construction solutions through study of unit cost determination, cost estimating, and financing procedures. Introduction to construction scheduling.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing in engineering or graduate standing for non-engineering majors.

Typically Offered
Spring

CE 690 - Selected Topics in Civil Engineering

Credits: 0-18

Applications of Precast Concrete in Buildings, Precast Concrete Materials, Preliminary Analysis and Loading Path, Structural Loads, Design of Precast and Prestressed Concrete Components, Handling, Erection and Bracing, Precast Concrete Tolerances.

Note
Approval of instructor.

Repeat for Credit
Y

Typically Offered
Fall

CE 703 - Responsibility in Engineering: Codes & Professionalism

Credits: 3

Course designed to help engineers, scientists, and technical managers to: understand fundamental "canons" of professional societies, establish or revitalize personal ethical standards using these canons, realize when situations are ethical dilemmas, and to develop a process to solving dilemmas. Key activities are: interviewing peers, analyzing current environment for potential challenges, developing ethics workshops, and writing individual code of ethics.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing or senior with instructor approval.

Typically Offered
Spring

CE 704 - Responsibility in Engineering: Leadership & Diversity

Credits: 3

Course designed to help engineers, scientists, and technical managers to: understand leadership approaches that promote high ethical conduct, and to understand the ethical value and challenges associated with a diverse workplace. Key activities are: interviewing peers; analyzing current environment for potential challenges; developing a workshop related to ethics, leadership and diversity; and writing individual code of ethics.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing or instructor approval.

Typically Offered
Fall

CE 718 - Engineering Photo Interpretation

Credits: 3

Photo interpretation techniques, types of aerial photographic film and their uses; application in land use studies, land surveying, site selection, rainfall runoff and stream flow, location of construction materials, and in the determination of soil properties; other applications.

Note
Two hours recitation and three hours lab a week. Consent

of instructor.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing

Typically Offered
Spring

CE 723 - Designing with Geosynthetics

Credits: 3

History of geosynthetics; overview of geosynthetic functions, applications and properties; relationship between testing and applications. Designing with geotextiles, geogrids, geonets, geomembranes, geosynthetic clay liners and geocomposites.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CE 522.

Typically Offered
Other

CE 725 - Seepage in Permeable Materials

Credits: 3

Analysis of seepage; groundwater movement in slopes, embankments, dams, and earth-supporting structures; construction of flow nets; dewatering systems; filter and drain design.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CE 522 and CE 552.

Typically Offered
Other

CE 728 - Advanced Geotechnical Design

Credits: 3

Advanced studies of soil investigations; design of retaining structures and reinforced earth walls, sheet piles, anchored bulkheads, underground conduits and tunnels; analysis and repair of failed structures.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CE 528.

Typically Offered
Spring

CE 732 - Advanced Structural Analysis I

Credits: 3

Plane truss and frame analysis by direct stiffness method; equivalent nodal forces; thermal and settlement effects; stiffness by energy methods; analysis of space frames and trusses; grid structures; advanced topics.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: "C" or better in CE 537.

Typically Offered
Fall

CE 741 - Civil Engineering Materials II

Credits: 3

Advanced study of civil engineering materials including concrete, steel and bituminous concrete.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit

N

Requisites
Prerequisite: CE 541 or CHE 350.

Typically Offered
Spring

CE 742 - Advanced Steel Design

Credits: 3

Plastic design of steel structures; stability problems in plastic design; design of complex steel structures.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CE 542.

Typically Offered
Spring

CE 743 - Advanced Reinforced Concrete Design

Credits: 3

Advanced methods of analysis and design of reinforced concrete members and structures.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CE 544 or equivalent

Typically Offered
Spring

CE 745 - Structural Dynamics

Credits: 3

Introduction to fundamental concepts in structural dynamics; free and forced vibration of single and multiple degrees of freedom systems with and without damping, numerical methods for linear and non-linear dynamic analysis, and basics of the earthquake response and design of structures.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 340, ME 512, CE 537 or equivalent.

Typically Offered
Fall

CE 751 - Hydraulics of Open Channels

Credits: 3

Properties of open-channel flow; types of open channels; conservation of mass, momentum, and energy; critical, uniform, and gradually varied flow; design of erodible channels; rapidly varied flow.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CE 552.

Typically Offered
Fall

CE 752 - Advanced Hydrology

Credits: 3

Review of basic principles; point and regional rainfall and flood frequency analyses; hydrologic and hydraulic flood routing; drainage and flood control facilities design; hydrologic modeling and simulation flood plain analysis and planning.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CE 550.

Typically Offered
Fall

CE 760 - Environmental Engineering Seminar

Credits: 0

Discussion of current advances in research and practice of environmental engineering.

Note
One hour seminar biweekly.

Repeat for Credit
Y

Typically Offered
Fall, Spring

Cross-listed
BAE 760

CE 762 - Water Treatment Processes

Credits: 3

Physical and chemical process principles and their application to water treatment plant design.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: CE 565.

Typically Offered
Spring

CE 766 - Wastewater Engineering: Biological Processes

Credits: 3

Biological process principles and their application to the design of wastewater treatment plants.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: CE 565.

Typically Offered
Fall

CE 768 - Geoenvironmental Engineering Design

Credits: 3

A team design project in geoenvironmental engineering focused on resolving interdisciplinary issues related to containment of pollutants and remediation of soil and groundwater.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: One of the following: AGRON 605, AGRON 746, BAE 690, CE 625, CE 654, CHE 531 or GEOL 611.

Typically Offered
Spring

Cross-listed
BAE 768, CHE 768

CE 771 - Travel Demand Modeling

Credits: 3

Historical development and current status of techniques used in urban transportation planning and travel demand forecasting; trip generation, trip distribution, mode choice, and traffic assignment.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CE 572 or consent of instructor.

Typically Offered
Spring

CE 774 - Pavement Design

Credits: 3

Methods of evaluating the load-carrying capacity of soil subgrade, subbase, and base courses; critical analysis of the methods of design for flexible and rigid pavements; methods of increasing the load-carrying capacity of highway and airport pavements.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: "C" or better in CE 522.

Typically Offered
Fall

CE 775 - Traffic Engineering

Credits: 3

Traffic operations of roads, streets, and highways; traffic engineering studies; use of signs, signals, and pavement markings as traffic control devices; highway and intersection capacity, design and operations of traffic signals; current microcomputer models and applications.

Repeat for Credit
N

Requisites
Prerequisite: "C" or better in CE 572.

Typically Offered
Spring

CE 777 - Portland Cement Concrete Pavements

Credits: 3

Portland cement concrete mix design and production. Paving operations. Saw and seal operations. Subgrade preparation. Base selection. Drainage selection, design and construction. Bonded and unbonded concrete overlays. Whitetopping and ultra-thin whitetopping. Concrete pavement restoration; quality assurance and quality control in concrete pavement construction.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CE 541.

Typically Offered
Spring

CE 778 - Geotechnics and Advanced Pavement Design

Credits: 3

Geotechnical aspects of mechanistic-empirical pavement design (MEPDG). Material characterization in MEPDG. Models relating mechanistic pavement responses to pavement performance. Applications of current mechanistic-empirical design methods.

Repeat for Credit
N

Requisites
Prereq: CE 774 or Instructor Permission

Typically Offered
Fall

CE 786 - Land Development for Civil Engineers and Planners

Credits: 3

Engineering problems involved in site planning and design. The comprehensive planning process, zoning and subdivision regulations; design and location of streets and highways, water supply and sanitary facilities, drainage and public utilities.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CE 572 or consent of instructor.

Typically Offered
Fall

CE 790 - Problems in Civil Engineering

Credits: 1-18

Problems in Civil Engineering

Note
Approval of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CE 791 - Research in Civil Engineering

Credits: 1-18

Original investigation or advanced study in some field related to the practice of civil engineering.

Note
Approval of department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CE 802 - Advanced Mechanics of Materials and Applied Elasticity

Credits: 3

Two- and three-dimensional deformation analysis , equilibrium, and elastic constitutive laws. Stress-strain transformations between coordinate systems. Advanced topics in bending, shearing, torsion and combined loads, with applications to engineering problems.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CE 533.

Typically Offered
Fall-Odd Years

Cross-listed
ME 802

CE 803 - Numerical and Analytic Techniques for Engineers

Credits: 3

Theory and application of linear algebra, differentiation, integration, optimization and complex variables to a broad range of engineering problems; introduction to solving partial differential equations using finite difference, finite element and boundary element methods.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 340.

Typically Offered
Fall

CE 807 - Applied Geostatistics

Credits: 2

Analysis of spatially-correlated data. Univariate, bivariate, and spatial description; global and point estimation; random function models; stationarity; intrinsic hypothesis; semivariogram; correlogram; ordinary and block kriging; cross validation; cross correlation and cokriging; experimental design.

Note
One hour lecture and one hour computer lab a day.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 510 or STAT 703.

Typically Offered
Intersession

Cross-listed
AGRON 807

CE 816 - Selected Topics in Civil Engineering

Credits: 1-18

Study of intermediate level topics of interest in civil engineering. Topics announced when offered.

Note
Instructor approval

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing

Typically Offered
Fall, Spring, Summer

CE 822 - Shear Strength and Slope Stability of Soils

Credits: 3

Advanced theories of soil strength and failure; soil improvement; theories of lateral earth pressure with applications; stability analysis by both classical and numerical methods. Selected soil mechanics laboratory project.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CE 728.

Typically Offered
Other

CE 823 - Engineering Properties of Cohesive Soils

Credits: 3

Mineralogy and structures of clay minerals; fabric and bonding of the clay particles; compressibility and strength characteristics of clays; moisture effects, retention, and movement through clay.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CE 522 and CE 725.

Typically Offered
Fall

CE 824 - Strength and Deformation of Geo-materials

Credits: 3

Mathematical and physical modeling in geotechnical engineering. Advanced laboratory testing of soils. Plasticity, dilatancy, failure and critical state. Finite element applications: Laboratory strength tests and/or simple field problems.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CE 522 or equivalent.

Typically Offered
Other

CE 825 - Environmental Geotechnology

Credits: 3

Soil/environment and soil/ pollutant interactions; pollutant effect on soil strength and behavior; design and performance of waste containment structures; clay liners, surface seals, and slurry walls; slope stability problems for landfills.

Note

Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CE 725.

Typically Offered
Other

CE 827 - Computational Applications in Geo-Systems

Credits: 3

The application of finite element method to multi-physics and pressure dependent materials such as soils, rock, concrete and asphalt. Course covers the formulation of 1D element, overview of elasticity (isotropic and anisotropic), theory of plasticity (modified Cam Clay and Drucker-Prager models), which is followed by applications such as stresses in the soil, shear strength, consolidation, shallow and deep foundations, retaining walls, mechanically stabilized earth and groundwater seepage.

Repeat for Credit
N

Requisites
Prerequisite: CE 522

Typically Offered
Spring

CE 828 - Advanced Seepage and Settlement Analysis in Soils

Credits: 3

Permeability and seepage analysis involving dams and sheet piles; stress distribution in earth masses, one- and three-dimensional consolidation theories; advanced study of compressibility of soil, numerical method applications in consolidation and seepage; analysis of settlement. Selected soil mechanics laboratory project.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CE 522 and CE 802.

Typically Offered
Other

CE 833 - Advanced Structural Analysis II

Credits: 3

Nonlinear structural analysis using classical solutions; nonlinear geometry analysis by matrix methods for trusses and frames; nonlinear material analysis by matrix methods for trusses and frames; solution of nonlinear equilibrium equations; modeling structural problems by commercial software to predict ultimate capacity and nonlinear response.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CE 732 or equivalent.

Typically Offered
Spring

CE 834 - Strengthening Design of Reinforced Concrete with Fiber Reinforced Polymers

Credits: 3

The course introduces advanced aspects of the analysis and design of reinforced concrete beams and columns (3 weeks), it then covers the mechanical properties of FRP composites used in CE applications (2 weeks), it then covers the flexural strengthening analysis and design of reinforced concrete beams with FRP including the formulation for various failure modes (5 weeks), it them addresses the shear strengthening analysis and design of reinforced concrete beams with FRP (2 weeks), it then covers the strengthening and FRP wrapping of reinforced concrete columns with FRP (3 weeks) and finally it describes the practical methods of the proper installation and inspection of FRP (1 week).

Repeat for Credit
N

Requisites

Prerequisite: CE 544

Typically Offered
Spring

CE 836 - Energy Methods and Applied Variational Principles

Credits: 3

Theory and applications of virtual work, minimum potential, and variational principles using generalized coordinates, displacements, and forces to derive and solve advanced problems in structural, soil and hydrodynamic problems.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CE 801.

Typically Offered
Other

CE 837 - Structural Stability

Credits: 3

Analysis of flexible members. Linear and nonlinear buckling of beams, frames, plates and complicated structural systems; post buckling behavior of steel structures.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CE 802.

Typically Offered
Spring

CE 844 - Prestressed Concrete Design

Credits: 3

Study of prestressing methods including strength and load-balancing approaches and their application to the analysis and design of beams, slabs, and axially loaded members. Flexural, shear, torsion, and anchorage-zone analysis. Study of deflection and time-dependent losses.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CE 544.

Typically Offered
Fall

CE 854 - Analysis of Groundwater Flow

Credits: 3

Principles of flow through porous media; applications of flow theory to well analysis and design; groundwater resource evaluation and regional groundwater systems analysis.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CE 552.

Typically Offered
Spring

CE 857 - Advanced Civil Engineering Design Using GIS

Credits: 3

Investigating the usage of Geographic Information Systems (GIS) technology to better solve engineering problems. Teams of students will use GIS to design solutions to various civil engineering related situations.

Note
Instructor approval

Repeat for Credit

Y

Requisites
Prerequisite: Graduate standing

Typically Offered
Spring

CE 861 - Environmental Engineering Chemistry

Credits: 3

Chemical kinetics and equilibria, acid-base chemistry, complex formation, precipitation and dissolution processes, and applications to the analysis of environmental engineering problems.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CE 565, CE 762.

Typically Offered
Fall

CE 866 - Advanced Wastewater Treatment

Credits: 3

Recent advances in municipal and industrial wastewater treatment. Wastewater microbiology, wastewater biochemistry, applications of biotechnology in wastewater engineering, recent advances in nutrient removal processes, wastewater treatment technologies, and water reclamation.

Note
Three hours recitation.

Repeat for Credit
Y

Requisites
Prerequisite: CE 766.

Typically Offered
Spring

CE 867 - Advance Environmental Microbiology and Techniques

Credits: 3

Provides a general introduction to the diverse roles of microorganisms in natural and artificial environments, and their engineering applications. Topics including fundamentals of microbiology, microbial growth and metabolism, microbiology of engineered environmental systems, and laboratory techniques relevant to environmental microbiology are covered..

Repeat for Credit
N

Requisites
Prerequisite: (BIOL 198 and CE 563) or Consent of Instructor

Typically Offered
Spring-Even Years

CE 868 - Chemicals in the Environment: Fate and Transport

Credits: 3

Provides an understanding of processes that govern the behavior of both hazardous and naturally-occurring substances in the environment. Mass transport (such as advection, dispersion, and diffusion), surface and groundwater hydrology, physical/chemical/biological degradation processes, and air pollution modeling are covered. Phase equilibrium and partitioning in environmental systems will be discussed as well as interphase mass transfer and modeling.

Repeat for Credit
N

Requisites
CE 563 or Consent of Instructor

Typically Offered
Spring-Odd Years

CE 872 - Transportation Safety

Credits: 3

Importance of transportation safety, crash data collection, common crash databases, traffic safety studies, accident

data analysis, identification of high crash locations, traffic control devices as related to safety, special population group safety, traffic conflict studies, accident reconstruction, statistical methods in crash data analysis and traffic calming.

Note
Three hours recitation per week. Consent of instructor.

Repeat for Credit
Y

Requisites
Prerequisite: CE 572

Typically Offered
Other

CE 873 - Airport Design

Credits: 3

Planning and design of a regional airport, including site selection in conformance with state and federal regulations; layout and design of runway system; size and layout of terminal buildings, landside facilities, parking lots, and circulation system.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
Y

Requisites
Prerequisite: CE 572.

Typically Offered
Spring

CE 874 - Sustainable Transportation Asset Management

Credits: 3

Recent advances in transportation asset management system. Inventory and condition data collection, life cycle analysis, prioritization, optimization, and implementation.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CE 774 or equivalent.

Typically Offered
Other

CE 875 - Traffic Flow Theory

Credits: 3

Theory of traffic flow, traffic stream characteristics, car following models, shock wave analysis, queuing analysis, application of statistical methods to traffic engineering problems, traffic simulation.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
Y

Requisites
Prerequisite: CE 775. Prerequisite or concurrent enrollment: STAT 510.

Typically Offered
Spring

CE 890 - Graduate Seminar in Civil Engineering

Credits: 0

Discussion of current advances and research in civil engineering.

Note
One hour seminar biweekly.

Repeat for Credit
Y

Typically Offered
Fall, Spring

CE 898 - Master's Report

Credits: 1-18

Topics selected with approval of major professor and department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CE 899 - Master's Thesis

Credits: 1-18

Topics selected with approval of major professor and department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CE 916 - Advanced Topics in Civil Engineering

Credits: 1-18

A course reserved for study of current topics in civil engineering.

Note
Eighteen hours graduate credit in areas approved by instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CE 930 - Advanced Topics in Geotechnical Engineering

Credits: 1-18

Advanced study of selected topics in geotechnical engineering.

Note
Eighteen hours graduate credit in areas approved by instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring

CE 935 - Structural Dynamics II

Credits: 3

Analysis of structures subject to dynamic loadings. Optimization of structural systems to minimize earthquake hazards.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CE 802.

Typically Offered
Other

CE 938 - Theory of Plates and Shells

Credits: 3

Equations and solutions of bending of thin plates of various edge conditions and shapes. Membrane and bending theory of shells of revolution. Nonlinear theory of plates and shells.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CE 802.

Typically Offered
Other

CE 950 - Advanced Topics in Structural Engineering

Credits: 1-18

Advanced study of selected topics in structural engineering.

Note

Eighteen hours graduate credit in areas approved by the instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring

CE 967 - Physicochemical Processes

Credits: 3

Advanced study of physical and chemical processes in the movement and removal of particulates and organics in natural and engineered systems.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CE 861.

Typically Offered
Other

CE 970 - Advanced Topics in Environmental and Water Resources Engineering

Credits: 1-18

Advanced study of selected topics in environmental and water resources engineering.

Note
Eighteen hours graduate credit in areas approved by the instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring

CE 980 - Advanced Topics in Transportation and Materials Engineering

Credits: 0-18

Advanced study of selected topics in transportation engineering and civil engineering materials.

Note
Eighteen hours graduate credit in areas approved by the instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring

CE 999 - Dissertation Research

Credits: 1-18

Topics selected with approval of major professor and department head. Doctor of veterinary medicine degree only.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CFT 824 - Parent-Child Interaction: Theory and Research

Credits: 3

Developmental theories and empirical research concerning the reciprocal interactions between parents and their children focusing on the socialization of the child within the family.

Repeat for Credit
Y

Typically Offered
Summer

CFT 853 - Family Systems in Cultural Context

Credits: 3

Helps students integrate an understanding of individuals, couples, and families within the context of culture. Helps participants to listen and respond in a thoughtful and sensitive manner to the individuals and families they serve professionally, especially those from diverse cultural backgrounds. Students will become more aware of their

own cultural memberships, and develop a framework for appreciating the cultural context of the profession of family therapy.

Repeat for Credit
Y

Requisites
Prerequisite: Admission to the CFT program and/or instructor's consent.

Typically Offered
Spring

CFT 864 - Clinical Theory and Practice A

Credits: 3

Introduction to the foundation of family therapy. A survey of the first half of major schools of family therapy.

Repeat for Credit
Y

Requisites
Pre-requisite: Admission to the CFT program and/or instructor's consent.

Typically Offered
Fall

CFT 865 - Human Sexuality

Credits: 3

Focus on implications of personal and familial aspects of human sexuality throughout the life cycle.

Repeat for Credit
Y

Typically Offered
Spring-Even Years

CFT 866 - Sex Therapy

Credits: 3

A focus on the framework and skills for delivering therapy to individuals and couples experiencing difficulties with their own sexuality or with sexual functioning in their relationships.

Repeat for Credit
Y

Typically Offered
Fall

CFT 867 - Pre-Practicum in Couple and Family Therapy

Credits: 3

Introduction to master's program in couple and family therapy, including clinic policies and clinical observations. Restricted to students admitted to the couple and family therapy program.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the CFT program and/or instructor's consent.

Typically Offered
Fall

CFT 868 - Pre-Practicum in Couple and Family Therapy II

Credits: 1

Preparation for screening into the clinical practicum in couple and family therapy and participation in clinic research program.

Repeat for Credit
Y

Requisites
Prerequisite: CFT 867 and concurrent enrollment in CFT 870.

Typically Offered
Spring

CFT 869 - Systematic Treatment of Trauma Violence and Substance Abuse

Credits: 3

Framework and skills for helping individuals and families experiencing domestic violence and/or substance abuse

with emphasis on assessment and treatment.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the CFT program and/or instructor consent.

Typically Offered
Fall

CFT 870 - Couples and Sex Therapy

Credits: 3

Examination of couple processes and clinical approaches to couple intervention and treatment, including evidence based approaches. The course will include a specific focus on contextual and systemic dynamics affecting couple relationships as well as the treatment of couples experiencing difficulties with their own sexuality or with sexual functioning in their relationships.

Repeat for Credit
Y

Requisites
Pre-requisite: Admission to the CFT program or instructor approval.

Typically Offered
Spring

CFT 872 - Family Therapy

Credits: 3

Discussion of the primary theories of Couple and Family Therapy which are used in the treatment of whole families who present themselves for therapy.

Repeat for Credit
N

Requisites
Pre-requisite: Admission to the CFT program or instructor approval

Typically Offered
Spring

CFT 877 - Individual and Family Assessment

Credits: 2

Assessment of individual and family functioning within multiple contexts; including an emphasis on client focused progress monitoring.

Repeat for Credit
Y

Requisites
Prerequisite: Admission to the CFT program or instructor approval

Typically Offered
Fall

CFT 878 - Professional Studies in Family Therapy

Credits: 3

Analysis of professional issues, techniques, and responsibilities associated with working effectively with families in a family therapy setting.

Repeat for Credit
Y

Requisites
Prerequisite: Admission to the CFT program or instructor approval.

Typically Offered
Spring

CFT 879 - Systemic Assessment and Treatment of Psychopathology

Credits: 3

Examination of the Diagnostic and Statistical Manual of Mental Disorders. Exploration of relational diagnoses and the interaction of individual disorders and relational functioning. Review of empirically supported treatments for individual and relational disorders.

Repeat for Credit
Y

Requisites
Prerequisite: Admission to the CFT program or instructor

approval.

Typically Offered
Spring

CFT 885 - Practicum in Couple and Family Therapy

Credits: 1-3

Supervised experience in couple and family therapy. Designed for master's level students.

Repeat for Credit
Y

Requisites
Prerequisite: Admission to the CFT program or instructor approval

Typically Offered
Fall, Spring, Summer

CFT 886 - Clinical Intervention with Parents and Children

Credits: 3

The course will examine the history of play therapy including the theories from which play therapy evolved, attachment theory, the fundamentals of play therapy, use of assessment with children and adolescents, sand tray play therapy, use of play therapy in the family context and special topics.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the CFT program or instructor approval.

Typically Offered
Fall

CFT 889 - Clinical Project

Credits: 1-3

Integration of clinical work and course work resulting in a final clinical project.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CFT 894 - Readings in Couple and Family Therapy

Credits: 1-6

Implications of research findings in preparation for professional work in counseling, teaching, and research in couple and family therapy.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CFT 896 - Clinical Theory and Practice B

Credits: 3

A survey of the second half of major schools of family therapy.

Repeat for Credit
Y

Requisites
Prerequisite: Admission to the CFT program or instructor approval.

Typically Offered
Fall

CFT 899 - MS Research in Couple and Family Therapy

Credits: 1-6

Individual research problems in couple and family therapy which may form the basis for the master's thesis or report.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CFT 910 - Topics in Couple and Family Therapy

Credits: 1-3

Examination of recent research, theory, and clinical practice related to couple and family therapy.

Repeat for Credit
Y

Requisites
Prerequisite: Admission to the CFT program or instructor approval

Typically Offered
Fall, Spring

CFT 970 - Specialization and Leadership

Credits: 3

Seminar focusing on the development of specialization in research, teaching, and applied work.

Repeat for Credit
Y

Typically Offered
Fall-Even Years

CFT 982 - Practicum in CFT Research

Credits: 1-3

Student will work with a faculty member to complete a research project and submit it to a journal.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the CFT program or instructor approval.

Typically Offered
Fall, Spring, Summer

CFT 983 - Advanced Family Research Methods

Credits: 3

Analysis of a variety of family research methods.

Repeat for Credit
Y

Typically Offered
Other

CFT 984 - Supervision of Couple and Family Therapy

Credits: 3

Preparation of experienced couple and family therapists for supervision roles within educational, medical and agency settings.

Repeat for Credit
Y

Requisites
Prerequisite: Admission to the CFT program or instructor approval. Corequisite: CFT 986

Typically Offered
Other

CFT 985 - PhD Practicum in Couple and Family Therapy

Credits: 1-3

Supervised experience in family therapy.

Note
Consent of instructor is required.

Repeat for Credit
Y

Requisites
Prerequisite: Admission to the CFT program or instructor approval

Typically Offered
Fall, Spring, Summer

CFT 986 - Practicum in Supervision in Couple and Family Therapy

Credits: 1-3

Supervised experience in supervision of couple and family therapy.

Repeat for Credit
Y

Requisites
Prerequisite: Admission to the CFT program or instructor approval.

Typically Offered
Fall, Spring, Summer

CFT 987 - Advanced Clinical Theory

Credits: 3

Exploration of couple and family therapy clinical theories and the process of integrating these theories into a personalized model for utilization in both therapy and supervision.

Repeat for Credit
Y

Requisites
Prerequisite: CFT 870 and CFT 896.

Typically Offered
Other

CFT 988 - Conjoint and Group Techniques in Family Counseling

Credits: 3

Advanced theory in couple and family counseling with emphasis on group techniques.

Repeat for Credit
Y

Requisites
Prerequisite: CFT 885 and consent of instructor.

Typically Offered
Spring, Summer

CFT 990 - Dissertation Proposal Seminar

Credits: 1

Presentation and discussion of proposals for dissertation research in human development and family science.

Repeat for Credit
N

Requisites
Prerequisite: Six hours of statistics, 3 hours of research design or methods, and consent of major professor.

Typically Offered
Fall, Spring, Summer

CFT 999 - Doctoral Research in Couple and Family Therapy

Credits: 1-18

Doctoral Research in Couple and Family Therapy

Repeat for Credit
Y

Typically Offered
Other

CHE 015 - Engineering Assembly

Credits: 0

Engineering Assembly

Repeat for Credit
Y

Typically Offered
Fall, Spring

CHE 110 - Current Topics in Chemical Engineering

Credits: 1

Recent advances in chemical engineering and the impact of the profession on society.

Note
One hour lecture per week.

Repeat for Credit
N

Typically Offered
On sufficient demand

CHE 320 - Chemical Process Analysis

Credits: 3

An introduction to chemical engineering with emphasis on material and energy balances.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent: CHM 230 or CHM 250 and MATH 222.

Typically Offered
Fall, Spring

CHE 354 - Basic Concepts in Materials Science and Engineering

Credits: 1

Structure of materials with crystal structures of metals and their defects emphasized. Two component phase diagrams, multiphase equilibrium, and the microstructures that result.

Note
Three hours lecture a week for 5 weeks.

Repeat for Credit
N

Requisites
Prerequisite: CHM 210, prerequisite or corequisite: PHYS 213.

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences

CHE 355 - Fundamentals of Mechanical Properties

Credits: 1

Overview of the mechanical properties of materials, especially metals, and the modification of these properties through changes in microstructure. Effect of heat treatment on microstructure and mechanical properties.

Note
Three hours lecture a week for 5 weeks.

Repeat for Credit
N

Requisites
Prerequisite: CHE 354.

Typically Offered
Fall, Spring

CHE 356 - Fundamentals of Electrical Properties

Credits: 1

Overview of the electrical properties of materials including conductors, semiconductors, and dielectrics, and their basis in the band theory of solids. Multiphase equilibrium and modification of properties through changes in microstructure.

Note
Three hours lecture a week for 5 weeks.

Repeat for Credit
N

Requisites
Prerequisite: CHE 354.

Typically Offered
Fall, Spring

CHE 416 - Computational Techniques in Chemical Engineering

Credits: 3

Use of computational techniques in chemical engineering.

Note

Two hours lecture and two hours of lab per week.

Repeat for Credit
N

Requisites
Prerequisite: CHE 320.

Typically Offered
Fall, Spring

CHE 417 - Computational Techniques in Chemical Engineering II

Credits: 3

Application and reinforcement of principles and concepts for problem-solving chemical engineering challenges using mathematical models and numerical methods. Computational tools and software packages covered in the course include Python and/or MatLab and the chemical process simulator Aspen Plus.

Repeat for Credit
N

Requisites
Prerequisite: CHE 416 Co-requisite: CHE 521

Typically Offered
Spring

CHE 430 - Biomaterials

Credits: 3

This course provides an overview of interactions between materials and biological systems, techniques to assess biomaterial characteristics, and the role of biomaterial selection during the design of medical devices for select applications.

Note
2 hours lecture; 3 hours laboratory

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198 and CHM 230

Typically Offered
Fall

Cross-listed
BME 430

CHE 497 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research project.

Repeat for Credit
Y

Typically Offered
Fall, Spring

CHE 499 - Honors Research in Chemical Engineering

Credits: 1-6

Individual research problem selected with approval of faculty advisor. Open to students in the College of Engineering honors program. A report is presented orally and in writing during the last semester.

Repeat for Credit
Y

Typically Offered
Fall, Spring

CHE 520 - Chemical Engineering Thermodynamics I

Credits: 2

A study of the first and second laws of thermodynamics, real gases, heat of solution and reaction.

Note
Two hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: A grade of C or better in CHE 320. Prerequisite or concurrent enrollment: MATH 340.

Typically Offered
Spring

CHE 521 - Chemical Engineering Thermodynamics II

Credits: 3

A continuation of the study of the second law, thermodynamic analysis of processes, phase equilibrium, and chemical reaction equilibrium.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: CHE 416 and CHM 531. Prerequisite: CHE 520.

Typically Offered
Fall

CHE 530 - Transport Phenomena I

Credits: 3

A unified treatment of the basic principles of momentum, energy, and mass transport.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: A grade of C or better in CHE 320 and MATH 340.

Typically Offered
Fall

CHE 531 - Transport Phenomena II

Credits: 3

Continuation of Transport Phenomena I with special emphasis on mass transfer.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: CHE 416.
Prerequisite: CHE 530.

Typically Offered
Spring

CHE 535 - Transport Phenomena Laboratory

Credits: 3

Laboratory experiments in momentum, heat, and mass transfer.

Note
Eight hours of laboratory per week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: CHE 531.

Typically Offered
Spring

CHE 542 - Unit Operations Laboratory

Credits: 3

Laboratory experiments on classical unit operations, e.g., distillation, absorption, extraction, and on chemical kinetics and process dynamics.

Note
Eight hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CHE 535, CHE 550 and CHE 560.
Prerequisite or concurrent enrollment: CHE 561.

Typically Offered
Spring

CHE 550 - Chemical Reaction Engineering

Credits: 3

Applied chemical kinetics and catalysis including the analysis and design of tubular, packed bed, stirred tank, and fluidized bed chemical reactors.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CHE 521 and CHE 531.

Typically Offered
Fall

CHE 560 - Separational Process Design

Credits: 3

Development of the basic theory and design of separational processes such as distillation, gas absorption, liquid extraction, adsorption, and ion exchange.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CHE 521 and CHE 531.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

CHE 561 - Chemical Process Dynamics and Control

Credits: 3

A study of the unsteady state behavior and control of chemical processes.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CHE 550 and 416.

Typically Offered
Spring

CHE 565 - Health and Safety in Chemical Engineering

Credits: 3

Fundamentals of chemical process safety, particularly as they apply to process design. Topics will include toxicology and industrial hygiene, fires and explosions, runaway reactions, relief systems, process hazards identification, risk assessment, and inherently safer design.

Repeat for Credit
N

Requisites
Corequisite: CHE 570.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

CHE 570 - Chemical Engineering Systems Design I

Credits: 3

Basic concepts of process economics and process optimization with application to the synthesis and design of chemical processing systems.

Note
Two hours recitation a week.

Repeat for Credit
N

Requisites
Corequisite: CHE 550 and CHE 560.

Typically Offered
Fall

CHE 571 - Chemical Engineering Systems Design II

Credits: 3

The solution of comprehensive systems design problems.

Note
Two hours recitation and six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CHE 550, CHE 560, and 570. Corequisite: CHE 561.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

CHE 580 - Problems in Chemical Engineering or Materials Science

Credits: 1-18

An introduction to chemical engineering research.

Note
Approval of department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CHE 626 - Bioseparations

Credits: 3

Study of separations important in food and biochemical engineering such as leaching, extraction, expression, absorption, ion exchange, filtration, centrifugation, membrane separation, and chromatographic separations.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CHE 531 or BAE 545.

Typically Offered
Spring-Even Years

CHE 631 - Nanotechnology in Chemical Engineering

Credits: 3

This course has been taught as a topics course, and will now be given a specific course number for its future offerings.

Repeat for Credit
N

Requisites
Senior undergraduate or graduate standing in engineering, or permission of the
instructor. It will be assumed that the student has been exposed to basic materials science.

Typically Offered
On sufficient demand

CHE 632 - Molecular Modeling

Credits: 3

This course focuses on introducing basic concepts in chemical engineering and chemistry related to thermodynamics, Kinetics, Chemistry, Surface Science, Catalysis, Materials Science in the context of molecular-level modeling. Students will also gain hands-on experience in using common simulation tools and high-performance computing.

Repeat for Credit
N

Requisites
Prerequisites: CHM 585 OR CHM 595, CHE 354, CHE 355, CHE 356, and CHE 521, OR instructor permission.

Typically Offered
On sufficient demand

CHE 633 - Microbial Biotechnology

Credits: 3

Continued advancements in microbiology have enabled the ability to use microorganisms for engineering applications. Thus, microbial biotechnology is a rapidly expanding area that has potential to improve agriculture productivity, provide renewable sources of energy, and improve the health of plants, animals, and humans, among other applications. This course will highlight these research areas and will emphasize chemical engineering concepts found within these systems.

Repeat for Credit
N

Requisites
Pre-Req: CHE 320 OR BAE 445 OR instructor permission

Typically Offered
On sufficient demand

CHE 642 - Fundamentals of Conversion of Biorenewable Resources

Credits: 3

An introduction to the conversion of biorenewable resources into biobased products and biofuels.

Note
Three hours of recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 220 and CHM 230.

Typically Offered
On sufficient demand

Cross-listed
BAE 642

CHE 643 - Life Cycle Assessment

Credits: 3

Introduction to the life cycle assessment methodology for quantifying environmental impacts of products, processes, and systems. Topics include life cycle methodology, data inventory process and databases, life cycle impact modeling approaches and software, uncertainty quantification, and practical applications to demonstrate life cycle assessment as a tool for making decisions to improve sustainability of materials, products, and system

Note
Three hours recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: Math 220 and either CHM 230 or CHM 250.

Typically Offered
Spring

Cross-listed
BAE 643

CHE 650 - Hazardous Waste Engineering Seminar

Credits: 1

Topics in hazardous materials management and control, waste reduction and minimization, hazardous substance tracking, and hazardous waste engineering.

Note
One hour recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CHM 230.

Typically Offered
Fall, Spring, Summer

CHE 656 - Polymer Science and Engineering

Credits: 3

An introduction to polymeric materials, including chemistry, structure and formation; physical states and transitions; and, basic physical and mechanical properties.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 531.

Typically Offered
Fall-Even Years

CHE 661 - Processing of Materials for Solid State Devices

Credits: 3

Structure, properties and processing of materials for solid state devices. Crystal growth, epitaxy, oxidation, diffusion, lithography, and etching as applied to device fabrication.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CHE 350 or CHE 352.

Typically Offered
Fall, Spring

CHE 663 - Environmental and Ecological Risk Assessment

Credits: 3

Examination of processes and methodologies associated with human environmental and ecological risk assessments. Application of the methods learned to a project to gain experience in defining and quantifying uncertainty associated with human perturbation, management and restoration of environmental and ecological processes.

Note
Three hours recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 221 and BIOL 255.

Typically Offered
On sufficient demand

Cross-listed
BAE 663

CHE 670 - Sustainability Seminar

Credits: 1

Topics in environmental sustainability, green engineering, life cycle analysis, sustainable development, and sustainability science.

Repeat for Credit
Y

Requisites
Prerequisite: CHM 230.

Typically Offered
Fall, Spring, Summer

CHE 681 - Engineering Materials II

Credits: 3

The structure and bonding in crystalline and amorphous materials; crystallography; thermodynamic stability in materials; equilibrium diagrams and the phase rule; rate theory and kinetics of solid-state transformations; mechanical behavior of engineering materials; dislocations; failure mechanisms.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: CHE 350 or CHE 352.

Typically Offered
Fall, Spring, Summer

CHE 682 - Surface Phenomena

Credits: 3

Principles and applications of interfacial phenomena, including capillarity, colloids, porosity, adsorption, and catalysis.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CHE 520, CHM 585, ME 513, or PHYS 664.

Typically Offered
Fall-Odd Years

CHE 715 - Biochemical Engineering

Credits: 3

The analysis and design of biochemical processing systems with emphasis on fermentation kinetics, continuous fermentations, aeration, agitation, scale up, sterilization, and control.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: CHE 550.

Typically Offered
Fall

CHE 750 - Air Quality Seminar

Credits: 1

Topics in air quality including health effects, toxicology, measurement, characterization, modeling, management, and control.

Note
One hour recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CHM 230.

Typically Offered
Fall

CHE 802 - Selected Topics in Materials Science

Credits: 1-18

Areas of current interest in materials including solidification, transformations, solutions, dislocations, creep, fracture, failure analysis, and failure prevention.

Repeat for Credit
Y

Requisites
Prerequisite: CHE 681.

Typically Offered
Fall, Spring, Summer

CHE 805 - Selected Topics in Biochemical Engineering

Credits: 3

Subjects of current interest in the broadest sense of biochemical engineering. These involve not only chemical engineering problems which contain biochemical biological, or medical elements but also applications of chemical engineering principles and methodologies to biochemical, biological, medical, and ecological problems.

Repeat for Credit
Y

Requisites
Prerequisite: CHE 715.

Typically Offered
Spring, Summer

CHE 810 - Research in Chemical Engineering

Credits: 1-18

Original investigations in transport phenomena, unit operations, thermodynamics, process dynamics, applied chemical kinetics and process development. The results of these investigations may be used for the master's thesis or the doctoral dissertation.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CHE 815 - Advanced Chemical Engineering Thermodynamics

Credits: 3

Advanced topics in thermodynamics, with emphasis on a chemical and physical equilibria and the estimation of thermodynamic properties.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing in chemical engineering.

Typically Offered
Fall, Spring, Summer

CHE 822 - Advanced Chemical Reaction Engineering

Credits: 3

Theory of kinetics and catalysis in homogeneous and heterogeneous systems, with applications in chemical reactor design and process development.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CHE 550.

Typically Offered
Fall, Spring, Summer

CHE 831 - Advanced Nanotechnology in Chemical Engineering

Credits: 3

This course will cover concepts of nanoscience and nanotechnology: material
continuum; fundamental properties of nanomaterials; nanomaterials (nanoparticles, nanocarbons,hybrid nanomaterials, nanocomposites, semiconductor quantum wells, nanowires, and quantum dots); fabrication and characterization methods; selected applications of nanomaterials such as energy storage, thermal management, sensing, electronic devices, composites, energy harvesting (photovoltaics), environmental remediation, medicine, and heterogeneous catalysis.

Repeat for Credit
N

Requisites
Senior undergraduate or graduate standing in engineering, or permission of the
instructor. It will be assumed that the student has been exposed to basic materials science.

Typically Offered
On sufficient demand

CHE 832 - Advanced Molecular Modeling

Credits: 3

This course focuses on introducing basic concepts in chemical engineering and chemistry related to thermodynamics, Kinetics, Chemistry, Surface Science, Catalysis, Materials Science in the context of molecular-level modeling. Students will also gain hands-on experience in using common simulation tools and high-performance computing.

Repeat for Credit
N

Requisites
Prerequisites: CHM 585 OR CHM 595, CHE 354, CHE 355, CHE 356, and CHE 521, OR instructor permission.

Typically Offered
On sufficient demand

CHE 833 - Advanced Microbial Biotechnology

Credits: 3

Continued advancements in microbiology have enabled the ability to use microorganisms for engineering applications. Thus, microbial biotechnology is a rapidly expanding area that has potential to improve agriculture productivity, provide renewable sources of energy, and improve the health of plants, animals, and humans, among other applications. This course will highlight these research areas and will emphasize chemical engineering concepts found

within these systems.

Repeat for Credit
N

Requisites
Corequisites: CHE 320 OR BAE 445 OR instructor permission.

Typically Offered
On sufficient demand

CHE 835 - Chemical Engineering Analysis

Credits: 3

The mathematical formulation of problems in chemical engineering using partial differential equations, vector and tensor notation. Solution of these problems by analytical and numerical techniques.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CHE 530.

Typically Offered
Fall, Spring, Summer

CHE 842 - Advanced Biomass Thermochemical Conversion

Credits: 3

Thermochemical methods to convert biomass to fuels and chemicals: liquefaction, pyrolysis, gasification, and heterogeneous catalysis. Analysis of the reaction kinetics and mass, heat, and momentum transfer in chemical reactors associated with these methods.

Note
Three hours of recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CHE 520 or ME 513 and CHE 550 or BAE 545.

Typically Offered
Fall-Odd Years

Cross-listed
BAE 842

CHE 862 - Advanced Transport Phenomena I

Credits: 3

Advanced treatment of momentum, energy, and mass transport, with emphasis on momentum transport in chemical engineering applications.

Note
Three hours recitation a week.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CHE 867 - Advanced Transport Phenomena II

Credits: 3

Advanced treatment of momentum, energy, and mass transport, with emphasis on energy and mass transport in chemical engineering applications.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CHE 862.

Typically Offered
Fall, Spring, Summer

CHE 875 - Graduate Seminar in Chemical Engineering

Credits: 1

Discussion of current advances and research in chemical engineering and related fields.

Repeat for Credit

Y

Typically Offered
Fall, Spring

CHE 898 - Master's Report

Credits: 1-18

Topics selected with approval of department head and major professor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CHE 899 - Master's Thesis

Credits: 1-18

Topics selected with approval of department head and major professor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CHE 901 - Selected Topics in Reaction Engineering

Credits: 3

Advanced study in this field of such topics as complex reactions, catalysis, dispersion effects, fast reactions, reactions in fluidized beds.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CHE 822 and one course in chemical engineering numbered 851 or higher.

Typically Offered
Fall, Spring, Summer

CHE 910 - Selected Topics in Transport Phenomena

Credits: 3

Subjects of current interest such as surface phenomena, turbulent transport, droplet mechanics, multicomponent systems.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CHE 867.

Typically Offered
Fall, Spring, Summer

CHE 930 - Selected Topics in Thermodynamics

Credits: 3

Advanced study in this field of such topics as irreversible thermodynamics, solution theory, and surface phenomena.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CHE 815 and one course in chemical engineering numbered 851 or higher.

Typically Offered
Fall, Spring, Summer

CHE 999 - Dissertation Research

Credits: 1-18

Topics selected with approval of department head and major professor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CHINE 101 - Chinese I

Credits: 4

Introduction to the fundamental linguistics and cultural characteristics of the Chinese language and its writing systems.

Repeat for Credit
N

Typically Offered
Other

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

CHINE 200 - Chinese II

Credits: 4

Continuation of Chinese I. Development of functional skills for familiar situations.

Repeat for Credit
N

Requisites
Prerequisite: CHINE 101.

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

CHINE 201 - Chinese III

Credits: 4

Continuation of Chinese II; further development of four skills of listening, speaking, reading, and writing; intensive practice of spoken and written Chinese.

Repeat for Credit
N

Requisites
Prerequisite: CHINE 200

Typically Offered
Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

CHINE 301 - Chinese IV

Credits: 4

Continuation of Chinese III. Presentation of more advanced elements of the Chinese language, with intensive practice of spoken and written Chinese.

Repeat for Credit
N

Requisites
Prerequisite: CHINE 201

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

CHINE 501 - Chinese V

Credits: 3

Development of communication skills through application activities. Enhancement of vocabulary and intensive practice in grammatical structures and their usage.

Repeat for Credit
N

Requisites
Prerequisite: CHINE 301 or equivalent.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

CHINE 502 - Chinese VI

Credits: 3

Continuation of Chinese V. Development of functional skills for general situations. Further enhancement of vocabulary and intensive practice in grammatical structures and their usage.

Repeat for Credit
N

Requisites
Prerequisite: CHINE 501 or equivalent.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

CHINE 599 - Special Studies in Chinese

Credits: 0-18

Special Studies in Chinese

Note
Consent of department head and instructor.

Repeat for Credit
Y

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

CHM 110 - General Chemistry

Credits: 3

Principles, laws, and theories of chemistry; important metallic and nonmetallic substances.

Note
Three hours lecture a week. An optional laboratory course, CHM 111, is available for an additional hour credit.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 111 - General Chemistry Laboratory

Credits: 1

A laboratory course to supplement the material of CHM 110.

Note
Three hours lab a week.

Repeat for Credit
N

Requisites
Corequisite: CHM 110.

Typically Offered
Fall, Spring, Summer

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 199 - Foundations for Success in Chemistry 1

Credits: 3

Skills and concepts needed for success in the first course of the freshman chemistry sequence.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: (One year of high school chemistry AND MATH 100) OR two years of high school algebra).

Typically Offered
Fall, Spring

CHM 200 - Frontiers in Chemistry

Credits: 1

An undergraduate seminar designed to introduce students to research being carried out within the Kansas State University Chemistry Department and to offer perspectives on other issues of interest to chemistry majors and those considering chemistry as a major.

Repeat for Credit
Y

Typically Offered
Fall or Spring

CHM 210 - Chemistry I

Credits: 4

First course of a two-semester study of the principles of chemistry and the properties of the elements and their compounds.

Note
Concurrent enrollment in CHM 210 lab is required.

Three hours lecture and three hours lab a week.

Students entering the university with Advanced Placement chemistry examination credit may earn the following grades: (Score 5) A in Chemistry I and A in Chemistry II; (Score 4) A in Chemistry I and B in Chemistry II; (Score 3) B in Chemistry I.

Repeat for Credit
N

Requisites
Prerequisite: (One year of high school chemistry AND MATH 100) OR two years of high school algebra).

Typically Offered
Fall, Spring, Summer

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 211 - Chemistry I Recitation

Credits: 1

An optional recitation class that requires concurrent enrollment in CHM 210 Chemistry I. The objective is the development of skills for solving chemical problems.

Note
Instruction will be via a small class format. Credit independent of grade for Chemistry I.

Repeat for Credit
Y

Requisites
Corequisite: CHM 210

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 220 - Honors Chemistry I

Credits: 5

First course of a two-semester study of chemical principles. Intended for students with a strong background in chemistry.

Note
Four hours lecture and three hours lab a week. Concurrent enrollment in CHM 220 lab is required.

Repeat for Credit
N

Requisites

Prerequisite: (One year of high school chemistry AND MATH 100) OR two years of high school algebra); ACT composite score of 26 or higher.

Typically Offered
Fall

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 230 - Chemistry II

Credits: 4

Second course of a two-semester study of the principles of chemistry and the properties of the elements and their compounds.

Note
Three hours lecture and three hours lab a week. Concurrent enrollment in CHM 230 lab is required.

Students entering the university with Advanced Placement chemistry examination credit may earn the following grades: (Score 5) A in Chemistry I and A in Chemistry II; (Score 4) A in Chemistry I and B in Chemistry II; (Score 3) B in Chemistry I.

Repeat for Credit
N

Requisites
Prerequisite: CHM 210 OR CHM 220.

Typically Offered
Fall, Spring, Summer

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 231 - Chemistry II Recitation

Credits: 1

An optional recitation class that requires concurrent enrollment in CHM 230 Chemistry II. The objective is the development of skills for solving chemical problems.

Note
Instruction will be via a small class format. Credit independent of grade for Chemistry II.

Repeat for Credit
N

Requisites
Corequisite: CHM 230.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 250 - Honors Chemistry II

Credits: 5

Continuation of CHM 220, covering the principles of chemistry.

Note
Three hours lecture and five hours lab a week.

Intended for students with a strong background in chemistry. Concurrent enrollment in CHM 250 lab is required. Laboratory has emphasis on quantitative chemical analysis.

Repeat for Credit
N

Requisites
Prerequisite: CHM 220.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 315 - Environmental Science: A Chemistry Perspective

Credits: 3

An analysis of important technological developments and their impact on society and on the earth's environment; ethical issues raised by technological advances. History, matter and energy, ecosystems, population issues, air pollution, water pollution, hazardous substances, environmental policies, and decision making are discussed.

Repeat for Credit
N

Requisites
Prerequisite: CHM 230 OR CHM 250.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Natural and Physical Sciences

CHM 316 - Environmental Science: A Chemistry Perspective Laboratory

Credits: 1

A laboratory course to supplement the material of CHM 315.

Note
Three hours lab per week.

Repeat for Credit
N

Requisites
Corequisite: CHM 315.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 350 - General Organic Chemistry

Credits: 3

A survey of types of organic reactions important to biological science, including pre-veterinary and certain agriculture and health and human sciences programs.

Note
Three hours lecture a week. Concurrent enrollment in CHM 351 is urged.

Repeat for Credit
N

Requisites
Prerequisite: CHM 230 OR CHM 250.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 351 - General Organic Chemistry Laboratory

Credits: 2

General Organic Chemistry Laboratory

Note
It is strongly recommended students complete CHM 350 prior to taking CHM 351.

Repeat for Credit
N

Requisites
Corequisite: CHM 350.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 357 - Chemical Warfare, 1914-Present

Credits: 3

Interdisciplinary look at chemical warfare. Encourages students to engage with the nature of chemical weapons as a way to help them better understand the implications of their use over the last century. Students are asked to think about the ways in which chemical compounds created for benign purposes can be subverted and used as weapons regardless of their creator's original intent.

Repeat for Credit

N

Typically Offered
Spring-Even Years

Cross-listed
HIST 357

CHM 371 - Chemical Analysis

Credits: 4

Principles of chemical equilibria and quantitative analysis: gravimetric, titrimetric, spectrophotometric, electroanalytical, and separations methods.

Note
Two hours lecture and five hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 230.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 372 - Forensic Chemistry and Criminalistics

Credits: 3

Introduction of forensic science and chemistry. Collecting physical evidence at a crime scene and examining it in the laboratory. Soils, glass, hair, fibers, drugs, explosives, poisons, castings, inks, and arson and rape situations are investigated.

Repeat for Credit
N

Requisites
Prerequisite: CHM 110 OR CHM 210 OR CHM 220.

Typically Offered
Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 399 - Honors Seminar

Credits: 3

Open to students in the arts and sciences honors program.

Repeat for Credit
N

Typically Offered
Fall

CHM 497 - Research in Undergraduate Chemistry

Credits: 1-3

Undergraduate research in the chemical sciences.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

CHM 498 - Honors Project

Credits: 3

Open only to non-Chemistry Arts & Sciences students who are active members of the University Honors Program.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 499 - Problems in Undergraduate Chemistry

Credits: 1-18

Problems may include classroom and/or lab work.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Natural and Physical Sciences

CHM 500 - General Physical Chemistry

Credits: 3

Elementary principles of physical chemistry.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: (CHM 230 OR CHM 250) AND (MATH 210 OR MATH 220) AND (PHYS 113 OR PHYS 213).

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 531 - Organic Chemistry I

Credits: 3

Topics to be covered include fundamental concepts in organic chemistry such as hybridization, molecular orbitals, structure and bonding, acids and bases, kinetics and thermodynamics, stereochemistry and chirality, and conformational analysis. The basic knowledge will be used to study the syntheses, reactions, and mechanisms of functional groups such as alkanes, haloalkanes, and alkenes. Structural determination using infrared spectroscopy and nuclear magnetic resonance will also be included.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 230 OR CHM 250.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 532 - Organic Chemistry Laboratory

Credits: 2

A laboratory exploring the synthesis and characterization of organic compounds.

Note
It is strongly recommended students complete CHM 531 prior to taking CHM 532.

Repeat for Credit
N

Requisites
Corequisiste: CHM 531.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 545 - Chemical Separations

Credits: 2

Principles of modern separation techniques.

Note
One hour lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: (CHM 250 OR CHM 371) AND CHM 532 AND CHM 550.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 550 - Organic Chemistry II

Credits: 3

A continuation of Organic Chemistry I (CHM 531). CHM 550 represents the second semester of a two-semester survey of organic chemistry. Topics to be discussed include syntheses, reactions, and mechanisms of alkynes, aldehydes and ketones, carboxylic acids and their derivatives, amines, benzene and its derivatives, organometallic chemistry, conjugated unsaturated systems and pericyclic reactions, polymers, carbohydrates, lipids, amino acids, proteins, and nucleic acids. Structural identification will be studied using various spectroscopic methods.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 531.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 551 - Advanced Organic Laboratory

Credits: 2

Advanced Organic Laboratory

Note
One five-hour lab and one hour of lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 550 and CHM 532.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

CHM 566 - Instrumental Methods of Analysis

Credits: 3

Introduction to theory and practice of electrochemical methods, molecular and atomic spectroscopy, surface science, mass spectrometry, separation methods, and electronics in analytical chemistry.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: (CHM 250 OR CHM 371) AND CHM 550 AND (CHM 500 OR CHM 595).

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 585 - Physical Chemistry I

Credits: 3

Elementary chemical thermodynamics and kinetic theory of gases.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites

Prerequisite: (CHM 350 OR CHM 531) AND MATH 222 AND PHYS 214.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 595 - Physical Chemistry II

Credits: 3

Elementary quantum chemistry, spectroscopy, statistical thermodynamics, and chemical kinetics.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: (CHM 350 OR CHM 531) AND MATH 222 AND PHYS 214.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 596 - Physical Methods Laboratory

Credits: 1-2

Experiments that relate to physical and instrumental methods.

Note
Three to six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 566 AND MATH 221 AND (PHYS 114 OR PHYS 214).

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

CHM 599 - Senior Thesis Research

Credits: 1-3

A final written report and oral presentation are required.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

CHM 600 - Scientific Glassblowing

Credits: 1

The basic techniques of bending, sealing, and blowing glass used to fabricate scientific glassware.

Note
Three hours of laboratory including one lecture demonstration a week.

Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 596 Physical Methods Laboratory.

Repeat for Credit
N

Requisites
Prerequisite: Junior OR Senior OR Graduate standing in the physical sciences, OR consent of instructor.

Typically Offered
Spring

K-State 8
Natural and Physical Sciences

CHM 601 - Safe Chemical Laboratory Practices

Credits: 1

A general safety course for persons working or teaching in a chemical laboratory.

Note
One hour of lecture per week.

Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 596 Physical Methods Laboratory. Consent of instructor.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

CHM 611 - Inorganic Chemistry I

Credits: 3

Atomic and molecular structure, bonding concepts used in the practice of inorganic chemistry. Applications of symmetry and group theory to structure, bonding, and spectra.

Note
May only take either CHM 611 or CHM 811, but not both, for credit.

Repeat for Credit
N

Requisites
Prerequisite: CHM 550.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 612 - Inorganic Chemistry II

Credits: 3

Structure, reactivity, and mechanistic aspects of main group and transition metal complexes. Organometallic reactions, catalysis, and bioinorganic chemistry.

Note
May only take either CHM 612 or CHM 812, but not both, for credit.

Repeat for Credit
N

Requisites
Prerequisite: CHM 550.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

CHM 652 - Organic Chemistry III: Reactions and Mechanisms

Credits: 3

Advanced study of organic compounds and their associated reaction mechanisms.

Note
Three hours lecture a week. Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 596 Physical Methods Laboratory. May only take either 652 or 852, but not both, for credit.

Repeat for Credit
N

Requisites
Prerequisite: CHM 532 AND CHM 550.

Typically Offered
Fall

K-State 8

Natural and Physical Sciences
Empirical and Quantitative Reasoning

CHM 657 - Inorganic Techniques

Credits: 2

The preparation, characterization, and study of transition metal, main group, and organometallic compounds using techniques commonly encountered in industrial and academic research.

Note
One hour lecture and three hours lab a week.

Repeat for Credit
N

Requisites
CORequisite: CHM 611 OR CHM 612.

Typically Offered
Fall

CHM 700 - Practicum in Teaching Chemistry

Credits: 1

Principles and methods of instruction in laboratories and recitation classes in chemistry, including one semester of supervised experience as an instructor in a chemical laboratory. This is a required course of all teaching assistants in the Department of Chemistry.

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 596 Physical Methods Laboratory.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing in chemistry OR consent of instructor.

Typically Offered
Fall

CHM 777 - Practical NMR Spectroscopy

Credits: 1

Fundamental aspects of 1D and 2D nuclear magnetic resonance (NMR) spectroscopy, as applied to the Chemistry Department's Varian 200- and 400-MHz spectrometers.

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 596 Physical Methods Laboratory.

Repeat for Credit
N

Requisites
Prerequisite: Senior OR graduate standing in the physical sciences, OR consent of instructor.

Typically Offered
Spring

CHM 799 - Problems in Chemistry

Credits: 1-18

Problems may include classroom or laboratory work. Not for thesis research.

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 596 Physical Methods Laboratory. Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CHM 800 - Chemistry in Outer Space and in the Laboratory

Credits: 2

The generation of reactive atoms and molecules in outer space and in the laboratory is covered, as well as their chemical reactions and spectroscopy. Extreme conditions

of high and low temperatures, synthesis using atoms, nanoscale particles of inorganic materials, and matrix isolation are discussed.

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
N

Typically Offered
Spring-Odd Years

CHM 801 - Chemical Thermodynamics

Credits: 3

The laws, principles, and methods of thermodynamics and their applications to chemical systems. Statistical-molecular approach emphasized.

Note
Three hours lecture a week. Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
N

Typically Offered
Other

CHM 811 - Advanced Inorganic Chemistry I

Credits: 3

Advanced concepts in atomic and molecular structure, bonding concepts used in the practice of inorganic chemistry. Applications of symmetry and group theory to structure, bonding, and spectra.

Note
May only take either 611 or 811, but not both, for credit.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing OR consent of instructor.

Typically Offered
Fall

CHM 820 - Materials Chemistry

Credits: 3

Concepts of materials chemistry developed from an understanding of the chemical composition and structure of materials, and their relationship to the properties of matter. Students will be introduced to the structures and composition of materials and the diverse range of materials, including metals, metal clusters, semiconductors, nanomaterials, supramolecular materials, sol-gel materials, liquid crystals, glasses, polymers and composites.

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory. Consent of instructor.

Repeat for Credit
N

Typically Offered
Spring

CHM 852 - Advanced Organic Chemistry

Credits: 3

Advanced study of organic compounds and fundamental types of reactions.

Note
Three hours lecture a week. May only take either 652 or 852, but not both, for credit.

Repeat for Credit
N

Typically Offered
Fall

CHM 854 - Theoretical Chemistry I

Credits: 3

Introduction to quantum mechanics and atomic and molecular spectroscopy.

Note
Three hours lecture a week. Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
N

Typically Offered
Fall

CHM 856 - Chemical Kinetics

Credits: 3

Survey of experimental and theoretical aspects of dynamics of chemical reactions.

Note
Three hours lecture a week. Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
N

Requisites
Prerequisite: CHM 801 OR CHM 854.

Typically Offered
Other

CHM 860 - Synthetic Organic Chemistry

Credits: 4

Conditions, scope, and applications of reactions useful in synthetic organic chemistry.

Note
Four hours lecture a week. Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
N

Typically Offered
Spring

CHM 862 - Organic Spectroscopy

Credits: 3

The principles of IR, UV-VIS, mass, and NMR spectroscopies applied to the problem of structure determination.

Note
Three hours lecture a week. Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
N

Typically Offered
Fall

CHM 899 - Research in Chemistry

Credits: 1-18

Research in analytical chemistry, inorganic chemistry, organic chemistry, and physical chemistry for the M.S. Degree.

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CHM 901 - Graduate Seminar in Analytical Chemistry

Credits: 0-1

Graduate Seminar in Analytical Chemistry

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CHM 902 - Graduate Seminar in Inorganic Chemistry

Credits: 0-1

Graduate Seminar in Inorganic Chemistry

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CHM 903 - Graduate Seminar in Organic Chemistry

Credits: 0-1

Graduate Seminar in Organic Chemistry

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CHM 904 - Graduate Seminar in Physical Chemistry

Credits: 0-1

Presentation of topics from literature in physical chemistry.

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CHM 920 - Analytical Separations

Credits: 3

The theory, instrumentation, and application of classical and modern separation techniques are covered in this lecture course.

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
N

Typically Offered
Spring

CHM 929 - Physical Methods in Inorganic Chemistry

Credits: 3

Theory and application of infrared, Raman, visible, ultraviolet, NMR, ESR, NQR, Mossbauer, and mass spectrometry to inorganic chemistry.

Note
Three hours lecture a week. Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
N

Typically Offered
Spring

CHM 930 - Homogeneous Catalysis

Credits: 2

The study of industrially important and synthetically useful catalysis of organic reactions by soluble metal complexes.

Note
Two hours lecture a week. Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
N

Typically Offered
Spring-Even Years

CHM 935 - Selected Topics in Inorganic Chemistry

Credits: 1-3

A lecture course in inorganic chemistry in areas of specialization of the faculty, with emphasis on current developments. Specific topics will be changed from semester to semester, so a student may take the course for credit more than once.

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory. Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring

CHM 937 - Applications of Surface Science to Chemistry

Credits: 3

Chemical bonding in the solid state. Surface science and related techniques as applied to chemical problems. Special topics including data analysis and corrosion studies.

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
Y

Typically Offered
Spring-Even Years

CHM 939 - Topics in Analytical Chemistry

Credits: 1-3

A lecture course in analytical chemistry in areas of specialization of the faculty, with emphasis on current developments.

Repeat for Credit
Y

Typically Offered
On sufficient demand

CHM 940 - Chemical Microscopy

Credits: 3

The theory, instrumentation and applications of modern microscopic methods are covered in this lecture course. Emphasis is given to the study of chemically-important phenomena in material systems.

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
N

Typically Offered
Spring-Even Years

CHM 944 - Electroanalytical Chemistry

Credits: 2-3

Theory and applications of electrochemical methods: chronoamperometry, chronopotentiometry, cyclic voltammetry, coulometry, polarography, potentiometry, and instrumentation.

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
N

Typically Offered
Spring-Odd Years

CHM 947 - Applied Molecular Spectroscopy

Credits: 3

Experimental, and theoretical methods associated with ultraviolet and visible absorption, fluorescence, Raman scattering, and nonlinear optical spectroscopies.

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
N

Requisites
Prerequisite: CHM 854.

Typically Offered
Spring-Odd Years

CHM 950 - Chemical Statistical Mechanics

Credits: 3

Application of classical and quantum statistical mechanics to chemical phenomena.

Note
Three hours lecture a week. Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
N

Requisites
Prerequisite: CHM 801 AND CHM 854.

Typically Offered
Other

CHM 954 - Theoretical Chemistry II

Credits: 3

Quantum theory of atomic and molecular structure.

Note
Three hours lecture a week. Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
N

Requisites

Prerequisite: CHM 854.

Typically Offered
Spring

CHM 955 - Selected Topics in Physical Chemistry

Credits: 1-3

A lecture course in physical chemistry in areas of specialization of the faculty, with emphasis on current developments. Specific topics will be changed from semester to semester, so a student may take the course for credit more than once.

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
Y

Requisites
Prerequisite: CHM 854.

Typically Offered
On sufficient demand

CHM 965 - Physical Organic Chemistry

Credits: 3

Principles of orbital symmetry, thermochemistry, kinetics, and other topics applied to the understanding of reaction mechanisms.

Note
Three hours lecture a week. Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
N

Typically Offered
Spring

CHM 970 - Selected Topics in Organic Chemistry

Credits: 1-3

A lecture course in organic chemistry in areas of specialization of the faculty, with emphasis on current developments. Specific topics will be changed from semester to semester, so a student may take the course for credit more than once.

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
Y

Typically Offered
On sufficient demand

CHM 999 - Research in Chemistry

Credits: 1-18

Research in analytical chemistry, inorganic chemistry, organic chemistry, and physical chemistry for the Ph.D. Degree.

Note
Unless otherwise stated, all chemistry courses numbers 600 or above require the following as minimum prerequisites: CHM 550 Organic Chemistry II; CHM 532 Organic Chemistry Laboratory; CHM 595 Physical Chemistry II; and CHM 598 Physical Chemistry II Laboratory.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CIS 015 - Undergraduate Seminar

Credits: 0

Presentation of professional problems and practices by students, faculty, and industry professionals associated with computing and information sciences.

Note
One hour lecture per week. Required of all undergraduate students new to the department.

Repeat for Credit
Y

Typically Offered
Fall, Spring

CIS 090 - CIS Scholars Seminar

Credits: 0

Presentation of professional problems and practices by students, faculty, and professionals associated with computing science.

Repeat for Credit
Y

Requisites
Prerequisite: Admission into the CIS Scholars Program.

Typically Offered
Fall, Spring

CIS 115 - Introduction to Computing Science

Credits: 2

A survey of the discipline of Computing Science and its interaction with other disciplines, incorporating historical development, theories, and tools of Computing Science (algorithm design and programming). Topics include: mechanical and digital computers, computational thinking, security, simulation, data science, web technologies, and more. Students will be able to explore real-world problems within computer science and research current topics.

Note
2 hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite or Concurrent: CIS 116

Typically Offered
Fall, Spring

CIS 116 - Introduction to Programming

Credits: 1

An introduction to programming by exploring core concepts such as variables, conditionals, iteration, basic data structures, functions, and classes. Hands-on activities to learn and apply concepts to real-world problems and ideas. Students will gain a solid foundation in programming, setting the stage for further study and professional use.

Note
2 hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 100

Typically Offered
Fall, Spring

CIS 118 - International Professional Development Experience

Credits: 1

Participation in various professional development activities at an international university.

Repeat for Credit
Y

Requisites
Prerequisite: Admission to the Computer Science Professional Program.

Typically Offered
Spring

CIS 190 - Undergraduate Seminar in Computing and Information Sciences

Credits: 1-3

Topics of special interest in computing and information sciences.

Repeat for Credit
Y

Typically Offered
Fall

CIS 200 - Programming Fundamentals

Credits: 4

Principles of algorithm design and their application to procedural programming: state, control structures, methods. Patterns of conditional and iterative control structure. Program testing. Introduction to arrays, classes, and objects. Programming projects.

Repeat for Credit
N

Requisites
Prerequisite: CIS 116. Prerequisite or concurrent enrollment: MATH 205 or MATH 220. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

CIS 209 - Computer Programming for Engineers

Credits: 3

Application of computers to engineering problems. Abstraction and problem solving; algorithms; control structures; input/output; functions; arrays and array processing.

Note
Two hours lecture, two hours lab each week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 220. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring, Summer

CIS 300 - Data and Program Structures

Credits: 3

A study of common data and program structures together with associated algorithms. Topics include interfaces, design patterns, arrays, stacks, queues, lists, trees, hash tables, recursion, binary search, and tree traversals. Experience with both use and implementation of these structures and algorithms using a modern programming language. Discussion of tradeoffs involving performance and software maintainability.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CIS 200 and either MATH 205 or MATH 220.

Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring

CIS 301 - Logical Foundations of Programming

Credits: 3

Logical formalisms used to model and reason about computer systems. Propositional and predicate logic, syntax, semantics, and proof theory; soundness and completeness issues. Mathematical induction. Program verification: invariants and program logics.

Repeat for Credit
N

Requisites
Prerequisite: CIS 200. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring

CIS 308 - C Language Laboratory

Credits: 1

Fundamentals of programming in C.

Note
Three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CIS 300. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring

CIS 351 - Cyber Defense Basics

Credits: 1

Knowledge and skills needed to administer and defend computer networks and systems. Topics include the basics of computer networks, intelligence gathering, network scanning and sniffing, password security and cracking, vulnerability exploitation, distributed denial of service, logging and auditing, and wireless network security and cracking. Practice using an isolated computing network.

Note
One and a half hours recitation a week.

Repeat for Credit
N

Typically Offered
Fall, Spring

CIS 397 - Honors Seminar in Computer Science

Credits: 1-3

Honors Seminar in Computer Science

Repeat for Credit
N

Typically Offered
Other

K-State 8
Empirical and Quantitative Reasoning

CIS 400 - Object-Oriented Design, Implementation, and Testing

Credits: 3

A study of concepts and techniques used to produce quality software programs. Object-oriented concepts, models, execution environments, design and testing techniques. Extensive application of these concepts and techniques to the development of non-trivial software programs.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CIS 300.

Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring

CIS 415 - Ethics and Conduct for Computing Professionals

Credits: 3

A study of the ethical issues raised by computing technologies and the impact on society. Exploration of how one might justify actions in regard to ethical dilemmas within the fields of technology, computer science, information security, and artificial intelligence. Other topics include an examination of terminology used, Profession Codes of Conduct for computer science professionals, ethics of software development, and ethical issues relating to privacy and intellectual property in cyberspace.

Repeat for Credit
N

Requisites
Prerequisite: CIS 300. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

CIS 450 - Computer Architecture and Operations

Credits: 3

Introduction to modern computer architectures: register transfer abstraction, addressing modes, basic operations (data transfer, arithmetic/logic, and control operations). Basic Operating System concepts and operations. Understanding relationships of higher-level language constructs to corresponding assembly instruction sequences generated by compilers. Introduction to interrupts and low-level I/O operations.

Repeat for Credit
N

Requisites
Prerequisite: ECE 241 and CIS 308. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring

CIS 490 - Special Topics in Computer Science

Credits: 2-4

Current topics in computer science.

Repeat for Credit
Y

Requisites
Prerequisite: Varies with the announced topic.

Typically Offered
Other

CIS 497 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research projects.

Repeat for Credit
Y

Typically Offered
Fall, Spring

CIS 499 - Honors Research/Thesis

Credits: 2-4

Individual research problem selected with approval of faculty advisor. A report/thesis is presented orally and in writing during the last semester.

Note
Open to students in the College of Engineering honors program and to seniors in the College of Arts and Sciences honors program.

Repeat for Credit
Y

Typically Offered
Other

CIS 501 - Software Architecture and Design

Credits: 3

Principles and patterns for design and structure of software, development of object-oriented models, examples of software architecture.

Repeat for Credit
N

Requisites
Prerequisite: CIS 400. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring

CIS 505 - Introduction to Programming Languages

Credits: 3

History, programming language concepts including type, scope and extent, abstraction mechanisms and control; programming paradigms, including one or more of logic, functional, and object-oriented programming, and programming languages supporting the selected paradigms; interpreters, compilers and virtual machines for the selected languages; storage management and garbage collection; type checking and type inference.

Note

Not available for credit to students with credit in CIS 705.

Repeat for Credit
N

Requisites
Prerequisite: CIS 301, CIS 400. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring

CIS 520 - Operating Systems I

Credits: 3

Operating systems concepts, services, and implementation: interrupt processing, processes, concurrency, deadlocks, resource scheduling and system structure; resource management: real and virtual storage, input/output systems, disk scheduling and file systems; design and construction of concurrent programs.

Repeat for Credit
N

Requisites
Prerequisite: CIS 450 or ECE 431; CIS 308, and CIS 400 or CIS 501. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring

CIS 522 - Introduction to Data Structures

Credits: 1

Introduction to basic data structures such as stacks, queues, lists, and priority queues, and algorithmic techniques for sorting, searching and hashing. Emphasis on modularity and reuse. Introduction to the concept of object-oriented design and interface specifications.

Note
Three hours recitation a week. Course meets in one contiguous block of five weeks. C, or C++ programming.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

CIS 523 - Introduction to Concurrent Programming

Credits: 1

Introduction to concurrent programming techniques based on message passing primitives (send/receive) and shared memory (semaphore based P/V operations and monitor-based wait/signal operations).

Note
Three hours recitation a week. Course meets in one contiguous block of five weeks.

Repeat for Credit
N

Requisites
Prerequisite: C, or C++ programming and CIS 300 or CIS 522. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

CIS 525 - Introduction to Network Programming

Credits: 3

Basic inter-process communication and network programming concepts including client-server and peer-to-peer, communication protocol use and specification, reliable and secure communication, and network applications including web technologies, electronic mail, and file transfer with a focus on application and implementation.

Repeat for Credit
N

Requisites
Prerequisite: CIS 300 and CIS 308. Students may enroll in

CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

CIS 526 - Web Application Development

Credits: 3

Fundamental principles and best practices of web development, user interface design, web API design, advanced web interfaces, web development frameworks, single-page web applications, web standards and accessibility issues.

Note
Not available for credit to students with credit in CC 515.

Repeat for Credit
N

Requisites
Prerequisite: CIS 501 and either CC 120, CMST 135, or equivalent experience in HTML, CSS, and JavaScript. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses. Prerequisite or concurrent: CIS 560.

Typically Offered
Spring

CIS 527 - Enterprise Systems Administration

Credits: 3

Administration of the Linux operating system, including installation, configuration, distributed file systems, firewalls and security, shell scripting, and user account management.

Note
Three hours recitation a week. Not available for credit to students with credit in CC 510.

Repeat for Credit
N

Requisites
Prerequisite: CIS 300.

Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring

CIS 530 - Introduction to Artificial Intelligence

Credits: 3

Fundamental background in intelligent systems for undergraduate students. Intelligent agents, problem-solving, uninformed and informed (heuristic) search, game tree search, foundations of knowledge representation and reasoning using logic and probability, and a first introduction to planning and machine learning. AI topics include the problem areas of natural language processing (NLP) and perception and methodologies such as artificial neural networks and genetic and evolutionary computation. Applications to practical design and development of intelligent systems will be emphasized, leading to individual projects on current topics and applications in AI.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: CIS 300, CIS 301 and MATH 312 or MATH 510. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

CIS 531 - Introduction to Programming Techniques for Data Science and Analytics

Credits: 3

Introduction to programming techniques for working with big data. Survey of programming concepts that underlie the MapReduce architecture, their implementation, and specific tools for data integration and data transformation. Basic databases and query processing in the context of real-world problems.

Repeat for Credit
N

Requisites

Prerequisite: Either CIS 200, CIS 209, or CC 210; and either STAT 225 or STAT 510. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

CIS 532 - Introduction to Deep Learning

Credits: 3

Foundations of deep learning, with focus on different types of modern neural network architectures (such as convolutional neural networks, recurrent neural networks, and transformers). Regularization and optimization in the context of deep learning. Frameworks and tools for building and training deep neural networks.

Note
Not available for credit to students with credit in CIS 831.

Repeat for Credit
N

Requisites
Prerequisite: CIS 530 or CIS 533

Typically Offered
Fall

CIS 533 - Introduction to Data Science Foundations

Credits: 3

Introduction to the foundations of data science and data analytics. Computer science concepts used for making discoveries in data. Data wrangling, feature engineering, classification, regression, clustering, outlier detection, societal aspects of data science, and more. Analysis of real-word data.

Repeat for Credit
N

Requisites
Prerequisite: CIS 300 or CC 310.

Typically Offered
Fall

CIS 536 - Introduction to Computer Graphics

Credits: 3

Introduction to computer graphics for undergraduate students. Mathematical foundations (e.g., linear, affine, and projective transformations) and fundamental topics in realistic rendering: view normalization, clipping and culling, scan conversion of lines and polygons, shading and illumination, texture mapping, user interfaces, picking, and collision handling. Intermediate topics include shaders, procedural textures, particle systems, basics of animation, fractals, color theory, and ray tracing.

Note
Three (3) hours lecture a week. Not available for credit to students with credit in CIS 636.

Repeat for Credit
N

Requisites
Prerequisite: CIS 308 and either MATH 205 or MATH 220. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring

CIS 537 - Computer Vision

Credits: 3

Theory and applications of computer vision. Introduction to computer vision, introduction to image formation, binary image processing, image enhancement and ltering, computational photography, geometric transforms, image features, image recognition, video analysis, deep learning-based computer vision, convolutional neural networks, and other selective topics on computer vision.

Note
Not available for credit to students with credit in CIS 737.

Repeat for Credit
N

Requisites
Prerequisite: CIS 301, CIS 400, and either CC 210 or an equivalent working knowledge of Python programming.

Typically Offered
Spring

CIS 544 - Advanced Software Design and Development

Credits: 3

Advanced concepts and practicum in object-oriented analysis, modeling, design, implementation, testing, and use of CASE tools; relationships among structural, static, and dynamic models; relationship among conceptual, system, and implementation models.

Note
Not available for credit to students with credit in CIS 744.

Repeat for Credit
N

Requisites
Prerequisite: CIS 501. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring, Summer

CIS 551 - Fundamentals of Computer and Information Security

Credits: 3

An introduction to computer and information security, including common attack techniques, application of cryptography in security, authentication and authorization, network security, enterprise network defense, web security, and analysis of design flaws that render a system vulnerable. Course projects provide hands-on experience on both the defense and offense aspects in cyberspace.

Note
Three hours recitation a week.

Not available for credit to students with credit in CIS 751.

Repeat for Credit
N

Requisites
Prerequisite: CIS 450 or CIS 520. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

CIS 553 - Fundamentals of Cryptography

Credits: 3

Introduction to the fundamentals of cryptography, including mathematical background, classical ciphers, public key encryption, block and stream ciphers, cryptographic hash functions, digital signatures, common attacks, and basic security protocols.

Note
Two hours lecture and two hours lab a week.

Not available for credit to students with credit in CIS 753.

Repeat for Credit
N

Requisites
Prerequisite: CIS 300, MATH 510. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring

CIS 560 - Database System Concepts

Credits: 3

Concepts, approaches, and techniques in database management. Representation of information as data, data storage techniques, foundations of logical data models, data retrieval, database design, transaction management, integrity and security.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: CIS 300 and CIS 301. Prerequisite or concurrent: MATH 312 or MATH 510. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring

CIS 561 - Introduction to Data Science in Practice

Credits: 3

The development and implementation of computer science solutions to practical data science problems in science and industry. Implementing computer programs and applying computational tools to turn real-world data into knowledge and solve real-world data science problems. Includes a substantial capstone component.

Note
Not available for credit to students with credit in CIS 861.

Repeat for Credit
N

Requisites
Prerequisite: CIS 300 or CC 310.

Typically Offered
Spring

CIS 570 - Introduction to Formal Language Theory

Credits: 3

Formal languages, automata, regular expressions, grammars, introduction to computability theory. Reading and writing informal mathematical proofs pertaining to these topics.

Note
Not available for credit to students with credit in CIS 770.

Repeat for Credit
N

Requisites
Prerequisite: MATH 510. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

CIS 575 - Introduction to Algorithm Analysis

Credits: 3

An introduction to mathematical analysis of time- and space-complexity of algorithms, including worst-case, average-case, and amortized complexity. An examination of various algorithmic designs, such as greedy algorithms, divide-and-conquer algorithms, and dynamic programming algorithms. Techniques for proving correctness of algorithms.

Repeat for Credit
N

Requisites
Prerequisite: CIS 300, CIS 301, and MATH 510.

Typically Offered
Spring

CIS 580 - Fundamentals of Game Programming

Credits: 3

Fundamental principles of programming games. Foundational game algorithms and data structures. Two-dimensional graphics and game world simulation. Development for multiple platforms. Utilization of game programming libraries. Design of multiple games incorporating topics covered.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: CIS 501 and MATH 221.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

CIS 585 - Game Engine Design

Credits: 3

Current practices of game engine development. The game engine as a soft real-time multi-agent simulation. Three-dimensional graphics and animation techniques, scene management, physics simulation, event systems, resource management, and network game architectures. Design and prototyping of a general use game engine.

Repeat for Credit
N

Requisites
Prerequisite: CIS 580 and MATH 551.

Typically Offered
Spring

CIS 590 - Special Topics in Computer Science

Credits: 1-4

Selected topics in computer science.

Note
Permission of instructor.

Repeat for Credit
Y

Typically Offered
On sufficient demand

CIS 596 - Entrepreneurial Computer Science Project

Credits: 3

Directed studies: selection, investigation and report on some topic not covered in prior courses; may include an implementation and/or experimentation component; may be done in collaboration with other students. Completion of a final report with literature review and project evaluation.

Repeat for Credit
Y

Requisites
Prerequisite: CIS 560, ENTRP 340 and senior standing in computer science. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

CIS 598 - Computer Science Project

Credits: 3

Directed studies: selection, investigation and report on some topic not covered in prior courses; may include an implementation and/or experimentation component; may be done in collaboration with other students. Completion of a plan, two reviews, and a final report with literature review and project evaluation.

Repeat for Credit
N

Requisites
Prerequisite: CIS 560 and senior standing in computer science. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring

CIS 599 - Cybersecurity Project

Credits: 3

Directed studies: selection, investigation and report on some topic not covered in prior security courses; may include an implementation and/or experimentation component; may be done in collaboration with other students. Completion of a final report with literature review and project evaluation.

Repeat for Credit
N

Requisites
Prerequisite: CIS 551 and senior standing in computer science. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring

CIS 604 - Set Theory and Logic for CS

Credits: 3

Informal and axiomatic set theory, propositional and predicate logic, proof techniques.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing.

Typically Offered
Other

K-State 8
Empirical and Quantitative Reasoning

CIS 621 - Real-Time Programming Fundamentals

Credits: 1

Relationship between C/C++ constructs and corresponding assembly code generated by compilers. Introduction to special techniques used to implement micro-controllers, such as initialization of programmable CPU modules/peripheral devices, techniques to link assembly and C/C++ codes, producing ROM-able code, and EPROM burning/Flash programming.

Note
Three hours recitation a week. Course meets in one contiguous block of five weeks.

Repeat for Credit
N

Requisites
Prerequisite: C or C ++ programming, and CIS 523 and either CIS 300 or CIS 522. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

CIS 622 - Real-Time Operating Systems

Credits: 1

Basic real-time operating systems concepts and services; interrupt processing; process and thread models; real-time software architectures and development environments. Detailed study of design and implementation of real-time applications using real-time operating systems.

Note
Three hours recitation per week. Course meets in one contiguous block of five weeks.

Repeat for Credit
N

Requisites
Prerequisite: CIS 621. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

CIS 625 - Concurrent Software Systems

Credits: 3

Architecture, design, modeling, implementation, and verification of concurrent, parallel, and distributed software; aspects such as real-time programming, parallel simulation; fault-tolerant programming; grid computing, embedded systems control.

Repeat for Credit
N

Requisites
Prerequisite: Either CIS 450 or ECE 431; and either CIS 400 or CIS 501.
Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

CIS 635 - Introduction to Computer-Based Knowledge Systems

Credits: 3

Introduction to the applications of artificial intelligence concepts to solving knowledge-dependent tasks. Review of knowledge-representation ideas. Survey of expert system design. Introduction to existing knowledge-based tools available on personal computers. Development of an intelligent system.

Repeat for Credit
N

Requisites
Prerequisite: CIS 300. Students may enroll in CIS courses only if they have earned a grade of C or better for each

prerequisite to those courses.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

CIS 636 - Introduction to Computer Graphics

Credits: 3

Devices and software for graphics display and user interaction, development of software for direct graphic manipulation applications.

Repeat for Credit
N

Requisites
Prerequisite: CIS 300. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

CIS 640 - Software Testing Techniques

Credits: 3

Survey of software testing methodologies; evaluation of software testing strategies; experience in a variety of software testing practices.

Repeat for Credit
N

Requisites
Prerequisite: CIS 301 and CIS 501. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring

CIS 641 - Software Engineering Design Project

Credits: 3

Current practices of software development, requirements, design, prototyping, measures and evaluations. Specification, design, and prototyping of a software system.

Note
Not available for credit to students with credit in CIS 642.

Repeat for Credit
N

Requisites
Prerequisite: CIS 308 and CIS 501.

Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

CIS 642 - Software Engineering Project I

Credits: 3

The first semester of a two-semester capstone course. Current practices of software development, requirements, design, prototyping, measures and evaluation. Specification, design, and prototyping of a software system.

Note
Not available for credit to students with credit in CIS 641.

Repeat for Credit
N

Requisites
Prerequisite: CIS 308 and CIS 501.

Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

CIS 643 - Software Engineering Project II

Credits: 3

Continuation of CIS 642. Final implementation, integration, and testing of a software system. Introduction to configuration management, project management, and software maintenance.

Repeat for Credit
N

Requisites
Prerequisite: CIS 642 (which must be taken in the preceding semester).

Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring

CIS 645 - Software Development Environments

Credits: 3

Survey of current development environments and/or an in-depth study of one development environment.

Repeat for Credit
N

Requisites
Prerequisite: CIS 501. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
On sufficient demand

K-State 8
Empirical and Quantitative Reasoning

CIS 655 - Security and Reliability of Computing Systems

Credits: 3

Fundamentals of security and reliability of computing systems from both hardware and software perspectives. Topics include symmetric and asymmetric cryptography, artificial intelligence (AI) safety and security, selected topics from hardware-based security, introduction to reliability and fault tolerance, hardware fault tolerance, and software fault tolerance.

Repeat for Credit
N

Requisites
Prerequisites: CIS 450 (Computer Architecture and Operations) OR ECE 441 (Design of Digital Systems); recommended MATH 221 (Analytic Geometry and Calculus II); recommended prior or concurrent CIS 553/753 (Introduction to Cryptography). Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

CIS 690 - Implementation Project

Credits: 3

The department will suggest various design or implementation projects for individuals or groups in areas such as translators, interpreters, microprogramming, minicomputer operating systems, graphics, numerical software, etc.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall, Spring, Summer

CIS 705 - Programming Languages

Credits: 3

Programming language concepts, including typing, scoping, abstraction and exceptions; programming paradigms, including one or more of logic, functional, object-oriented and concurrent programming, and programming languages supporting the selected paradigms; introduction to programming language semantics; programming language design; development environments.

Note
Not available for credit to students with credit in CIS 505.

Repeat for Credit
N

Requisites
Prerequisite: CIS 301 and CIS 400. Students may enroll in

CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

CIS 706 - Translator Design I

Credits: 3

Compilers and interpreters, including description of languages, finite state scanners. LL(1) parsing, symbol tables, syntax-directed semantics, simple code generation. Constructing a simple compiler.

Repeat for Credit
N

Requisites
Prerequisite: CIS 501, and CIS 505. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

CIS 720 - Advanced Operating Systems

Credits: 3

Process synchronization and communication, distributed programming primitives, transactions and concurrency control, distributed scheduling, distributed storage, deadlock, security.

Repeat for Credit
N

Requisites
Prerequisite: CIS 520. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Other

CIS 721 - Real-Time Systems

Credits: 3

The design of hard real-time embedded systems, including language and operating system support, scheduling, schedulability analysis, fault tolerance, and design tools.

Repeat for Credit
N

Requisites
Prerequisite: CIS 520 or both CIS 622 and ECE 633. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Other

CIS 722 - Operating System Practices

Credits: 3

Structure and functions of modern operating systems. Emphasis on reading and modifying the source code of a working operating system. This includes memory management, input/output, process management, file systems, and network interconnection software construction.

Repeat for Credit
N

Requisites
Prerequisite: CIS 520. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring

CIS 725 - Advanced Computer Networks

Credits: 3

Network algorithms; routing and congestion control; protocol engineering; protocol decomposition, specification and verification, synthesis; protocols for high speed networks; parallel implementations, light-weight protocols.

Repeat for Credit
N

Requisites
Prerequisite: CIS 520, and CIS 525. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Other

CIS 726 - Advanced World Wide Web Technologies

Credits: 3

An advanced course on the technologies that make up the World Wide Web. WWW site designs and analysis, WWW software architecture, server-side technologies, dynamic executable scheduling, digital libraries, WWW security.

Repeat for Credit
N

Requisites
Prerequisite: CIS 520, CIS 525. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring

CIS 730 - Principles of Artificial Intelligence

Credits: 3

Introduction to the fundamental concepts and techniques of AI: problem solving, search and planning, knowledge representation and qualitative reasoning, expert systems, natural language processing and cognitive modeling, computer vision, and machine learning.

Repeat for Credit
N

Requisites
Prerequisite: CIS 501. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring

CIS 731 - Programming Techniques for Data Science and Analytics

Credits: 3

Intermediate programming techniques for data science. Survey of programming concepts that underlie MapReduce, Apache Hadoop, and Spark, along with related tools. NoSQL, search tools, graph databases, and visualization presented in the context of real-world problems involving data integration and transformation.

Repeat for Credit
N

Requisites
Prerequisite: Either CIS 200 or CIS 209, and either STAT 225 or STAT 510.

Typically Offered
Fall

CIS 732 - Machine Learning and Pattern Recognition

Credits: 3

Theory and methodology of inductive learning, including decision trees, artificial neural networks, probabilistic and instance-based learning, and inductive logic programming; unsupervised and reinforcement learning, bagging and boosting; genetic algorithms and genetic programming; and applications to data mining.

Repeat for Credit
N

Requisites
Prerequisite: CIS 501

Typically Offered
Fall

CIS 733 - Data Science Foundations

Credits: 3

Methods used for making discoveries in complex data and turning data into knowledge. Handling big data and "small data", feature engineering, convolutions, classification, regression, using clustering for discovery, novelty detection, statistical inference, research design, prescriptive analytics, and more. Using standard software packages and libraries for preparing and analyzing data, implementing supervised machine learning, and visualization.

Repeat for Credit
N

Requisites
Prerequisite: CIS 300 or CC 310. Prerequisite or concurrent: STAT 225, STAT 240, STAT 250, STAT 510, or STAT 703.

Typically Offered
Fall

CIS 734 - Introduction to Genomics and Bioinformatics

Credits: 4

A problem solving approach to understanding genomics and bioinformatics. Practical use of databases and web-based tools used to study biological problems. Introduction to the algorithms behind these tools.

Note
Three hours lecture and one-and-a-half hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Either BIOL 450 or CIS 300, and instructor permission. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring-Even Years

Cross-listed
BIOL 734

CIS 736 - Computer Graphics

Credits: 3

Topics in computer representation and display of images and graphic interaction.

Repeat for Credit
N

Requisites
Prerequisite: CIS 308. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Other

CIS 737 - Advanced Computer Vision

Credits: 3

Theory and applications of computer vision. Introduction to computer vision, introduction to image formation, binary image processing, image enhancement and ltering, computational photography, geometric transforms, image features, image recognition, video analysis, deep learning-based computer vision, convolutional neural networks, and other selective topics on computer vision.

Note
Not available for credit to students with credit in CIS 537.

Repeat for Credit
N

Requisites
Prerequisite: CIS 301, CIS 400, and either CC 210 or an equivalent working knowledge of Python programming

Typically Offered
Spring

CIS 740 - Software Engineering

Credits: 3

Software life cycle, requirements, specifications, design, validation, measures, and maintenance.

Repeat for Credit
N

Requisites
Prerequisite: CIS 641 or CIS 642. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Other

CIS 744 - Advanced Software Analysis and Design

Credits: 3

Advanced concepts and practicum in object-oriented analysis, modeling, design, implementation, testing, and use of CASE tools; relationships among structural, static, and dynamic models; relationship among conceptual, system, and implementation models.

Note
Not available for credit to students with credit in CIS 544.

Repeat for Credit
N

Requisites
Prerequisite: CIS 641 or CIS 642.

Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring, Summer

CIS 746 - Software Measurement

Credits: 3

Measurement theory; development, validation and use of software measures; software measures in the life cycle, including cost estimation, design measures, software complexity and software reliability.

Repeat for Credit
N

Requisites
Prerequisite: CIS 641 or CIS 642. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Other

CIS 748 - Advanced Software Management

Credits: 3

Topics related to the management of software, including organization, project planning, process models, life cycle models, TQM, software quality assurance, cost estimation, configuration management.

Repeat for Credit
N

Requisites
Prerequisite: CIS 740 or CIS 744. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring, Summer

CIS 750 - Advanced Computer Architecture

Credits: 3

Fundamentals of quantitative design of computer architectures, memory hierarchy design, instruction-level parallelism, data-level parallelism, thread-level parallelism, parallel programming, parallel performance analysis, and warehouse-scale computers.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CIS 450. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
On sufficient demand

CIS 751 - Computer and Information Security

Credits: 3

A comprehensive coverage of computer and information security. Basic cryptography, access control, authentication, authorization, network security, software security, and social aspects of security. The lectures discuss when and where things can go wrong and how design flaws in a system can be exploited to compromise security. Common attack techniques are introduced, and students have the opportunity to work on course projects that cover both the defense and offense aspects in cyberspace.

Note
Not available for credit to students with credit in CIS 551.

Repeat for Credit
N

Requisites
Prerequisite: CIS 450 or CIS 520. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

CIS 753 - Applied Cryptography

Credits: 3

Fundamentals of cryptography, including mathematical background, classical ciphers, public key encryption, block and stream ciphers, cryptographic hash functions, digital signatures, common attacks, and basic network security.

Note
Not available for credit to students with credit in CIS 553. Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CIS 300, MATH 510, or equivalent. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring

CIS 755 - Systems Security

Credits: 3

In-depth coverage of advanced theoretical and practical security techniques with emphasis on construction of new systems and auditing and repair of existing security-critical systems using rigorous design, risk analysis, and engineering methods and application of state-of-art theoretical tools.

Repeat for Credit
N

Requisites
Prerequisites: CIS 551 or CIS 751. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring

CIS 761 - Data Base Management Systems

Credits: 3

Data models and languages, hierarchical, network, relational systems; implementation and operational requirements; programming projects using data base management systems.

Repeat for Credit
N

Requisites
Prerequisite: CIS 560, CIS 604. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Other

CIS 762 - Office Automation

Credits: 3

Characteristics of information work; modeling systems for characterizing aspects of office environment; form-based systems; office automation and description languages, ergonomics, local area networks and tools used in the automation of offices.

Repeat for Credit
N

Requisites
Prerequisite: CIS 525, CIS 560. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Other

CIS 764 - Database Design

Credits: 3

Conceptual, logical, physical, and user interface design for database management systems.

Repeat for Credit
N

Requisites
Prerequisite: CIS 501. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
On sufficient demand

CIS 770 - Formal Language Theory

Credits: 3

Regular languages, finite automata, context-free languages, pushdown automata, context-sensitive languages, linear bounded automata, recursively enumerable languages, Turing machines.

Note
Not available for credit to students with credit in CIS 570.

Repeat for Credit
N

Requisites
Prerequisite: MATH 510. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Spring

CIS 771 - Software Specification

Credits: 3

Formal logic or specification of software components; algebraic vs. model-based specifications; common abstract types; verification of properties of specifications; introduction to specification of concurrent systems.

Repeat for Credit
N

Requisites
Prerequisite: CIS 301. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Other

CIS 775 - Analysis of Algorithms

Credits: 3

Study and application of techniques and procedures used in the analysis of algorithms including the worst and average cases of both time and space. Study of the P and NP classes.

Repeat for Credit
N

Requisites
Prerequisite: CIS 575. Students may enroll in CIS courses only if they have earned a grade of C or better for each prerequisite to those courses.

Typically Offered
Fall

CIS 798 - Topics in Computer Science

Credits: 1-18

Topics in Computer Science

Repeat for Credit
Y

Requisites
Prerequisite: Prerequisite varies with the announced topic.

Typically Offered
Other

CIS 801 - Translator Design II

Credits: 3

LR parsing, storage allocation, code generation, data flow optimization, compiler generators.

Repeat for Credit
Y

Requisites
Prerequisite: CIS 706.

Typically Offered
On sufficient demand

CIS 806 - Semantics of Programming Languages

Credits: 3

Introduction of formal semantics description methods for programming languages; comparison of operational, denotational, algebraic, and axiomatic methods; analysis of relationship of formal semantics definitions to computer implementation.

Repeat for Credit
Y

Requisites
Prerequisite: CIS 771.

Typically Offered
Other

CIS 810 - Logic Programming

Credits: 3

Selected topics; constraint logic programming, deductive databases, concurrent logic programming, object-oriented logic programming, mathematical theory of logic programming specification and transformation of logic programs.

Note
Knowledge of Prolog.

Repeat for Credit
Y

Typically Offered
Other

CIS 820 - Topics in Theory of Asynchronous Systems

Credits: 3

Safety and liveness properties, synchronous and asynchronous message passing systems, virtual circuit and datagram communication, process failure, concepts of composition and superimposition, temporal logic, reachability analysis, theory of concurrency control, atomic commitment, replica control.

Repeat for Credit
Y

Requisites
Prerequisite: CIS 720.

Typically Offered
Other

CIS 825 - Topics in Distributed Systems

Credits: 3

Models of distributed computation, events and global states, failure semantics, communication abstractions, synchronization in distributed programs; distributed algorithms: election, termination and deadlock detection, broadcast programming and algorithms.

Repeat for Credit
Y

Requisites
Prerequisite: CIS 720; or CIS 725 and permission of the instructor.

Typically Offered
Other

CIS 826 - Protocol Engineering

Credits: 3

Basic concepts of protocol design, specification languages and formal description techniques, safety and liveness properties, protocol validation, protocol synthesis, protocol translation and conformance testing.

Repeat for Credit
Y

Requisites
Prerequisite: CIS 725.

Typically Offered
Other

CIS 830 - Current Topics in Artificial Intelligence

Credits: 3

Advanced techniques and new ideas in artificial intelligence. Includes applications and case studies of artificial intelligence in action.

Repeat for Credit
Y

Requisites
Prerequisite: CIS 730.

Typically Offered
Other

CIS 831 - Deep Learning

Credits: 3

Foundations of deep learning, with focus on different types of modern neural network architectures (such as convolutional neural networks, recurrent neural networks, and transformers). Regularization and optimization in the context of deep learning. Frameworks and tools for building and training deep neural networks.

Repeat for Credit
N

Requisites
Prerequisite: CIS 732 or IMSE 730

Typically Offered
Fall

CIS 832 - Knowledge Representation for the Semantic Web

Credits: 3

Knowledge representation languages for data sharing and integration, in particular the W3C Semantic Web standards RDF, OWL and SPARQL; state of the art knowledge graph and knowledge graph schema modeling process; ontology design patterns; modular ontology engineering.

Repeat for Credit
N

Requisites
Prerequisite: CIS 300

Typically Offered
Fall, Spring

CIS 833 - Information Retrieval and Text Mining

Credits: 3

Theory and practice of search engines for retrieving textual information; basic and advanced topics, with emphasis on newer technologies that go beyond simple keyword search; the use of MapReduce framework to process large collections of documents.

Note
Instructor permission.

Repeat for Credit
N

Requisites
Prerequisite: CIS 732

Typically Offered
Fall

CIS 834 - Machine Learning for Bioinformatics

Credits: 3

The course will cover some of the most important machine learning algorithms (including semi-supervised and transfer learning algorithms) and their applications to bioinformatics.

Note
Instructor permission.

Repeat for Credit
N

Requisites
Prerequisite: Either CIS 732 or CIS 734

Typically Offered
Spring-Odd Years

CIS 835 - Neuro-Symbolic Artificial Intelligence: Deep Learning and Knowledge Representation

Credits: 3

State of the art in combining deep learning with symbolic artificial intelligence approaches based on the newest research publications on the topic.

Note
Instructor permission

Repeat for Credit
N

Typically Offered
Spring

CIS 836 - Knowledge Graphs

Credits: 3

State of the art in knowledge graph based data management

and applications; based on the newest research publications on the topic.

Note
Instructor permission

Repeat for Credit
N

Typically Offered
Spring

CIS 841 - Verification and Validation

Credits: 3

Practical techniques for verifying and validating software including formal verification, software testing, reliability measurement and modeling.

Repeat for Credit
Y

Requisites
Prerequisite: CIS 771 and either or CIS 740 or CIS 744.

Typically Offered
Other

CIS 842 - Specification and Verification of Reactive Systems

Credits: 3

Review of formal specification languages; architecture of concurrent and reactive systems; specification methods including: Z, Petri nets, temporal logic, state transition models; development and evaluation of system specifications; verification structures including layered systems, serialization, and predicate automata.

Repeat for Credit
Y

Requisites
Prerequisite: CIS 771.

Typically Offered
Other

CIS 844 - Agent-Oriented Software Engineering

Credits: 3

Analysis, design, and implementation of large, complex, distributed, and adaptive software systems using agent-oriented paradigm. Will survey various modeling languages and agent-oriented methodologies.

Repeat for Credit
Y

Requisites
Prerequisite: CIS 730, CIS 740.

Typically Offered
Spring

CIS 855 - High Assurance Systems

Credits: 3

Techniques for developing high assurance (safety critical, security critical, or mission-critical in nature) systems. Topics include writing requirements for safety-critical systems, formal architecture definition, risk management techniques including various forms of hazard analysis, safety systems, and verification and validation.

Repeat for Credit
N

Requisites
Prerequisites: (CIS 771) Software Specification AND Java programming skills.

Typically Offered
Spring

CIS 860 - Advanced Database Systems

Credits: 3

Advanced topics in database and intelligent information systems. Possible topics include active, temporal, object-oriented, and multimedia databases, warehousing and data mining.

Repeat for Credit
Y

Requisites
Prerequisite: CIS 761 or CIS 764.

Typically Offered
Other

CIS 861 - Data Science in Practice

Credits: 3

Application of data science paradigms, tools, and protocols to solve real-world problems within science and industry.

Note
Instructor consent.

Repeat for Credit
N

Typically Offered
Spring

CIS 864 - Data Engineering

Credits: 3

Advanced topics in database design and maintenance including performance monitoring, query optimization and tuning in centralized and distributed data systems.

Repeat for Credit
Y

Requisites
Prerequisite: CIS 761 or CIS 764.

Typically Offered
Other

CIS 870 - Theory of Computability

Credits: 3

Formal models for computability; universal programs; Church's thesis; unsolvable problems and reducibilities; partial recursive functions; recursive and recursively enumerable sets; s-m-n theorem and the recursion theorem.

Repeat for Credit
Y

Requisites
Prerequisite: CIS 770.

Typically Offered
Other

CIS 890 - Special Topics in Computer Science

Credits: 2-4

Topics of the current state-of-the-art of computer science.

Note
Prerequisite varies with the announced topic.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CIS 895 - MSE Project

Credits: 0-6

This course takes the student through the process of developing a project. This process typically takes more than one semester to complete. Includes reviews and walkthroughs of the requirements, design, and implementation.

Repeat for Credit
Y

Requisites
Prerequisite: CIS 740 or CIS 744, CIS 748, CIS 771, and three additional credits toward the MSE degree.

Typically Offered
Other

CIS 897 - Seminar in Computer Science

Credits: 1

Introduction to computing as a discipline; the relationship of computing to other disciplines; the interaction of computing and ethics; the development of a written and oral research proposal.

Repeat for Credit
Y

Requisites
Prerequisite: full graduate standing in CIS (CR/NCR only).

Typically Offered
Fall, Spring, Summer

CIS 898 - Master's Report in CIS

Credits: 1-3

Master's Report in CIS

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CIS 899 - Research in Computer Science

Credits: 1-6

Research in Computer Science

Repeat for Credit
Y

Requisites
Prerequisite: CIS 897.

Typically Offered
Other

CIS 905 - Theory of Programming Languages

Credits: 3

Formal definition languages; operational and formal semantic models; equivalence of semantic models; formal properties of programming languages.

Repeat for Credit
Y

Requisites
Prerequisite: CIS 806.

Typically Offered
Other

CIS 920 - Research Topics in Distributed Systems

Credits: 3

Topics on current state-of-the-art research in distributed systems.

Note
Permission of the instructor.

Repeat for Credit
Y

Typically Offered
Other

CIS 940 - Research Topics in Software Engineering

Credits: 3

Research on one of the topics in CIS 840.

Repeat for Credit
Y

Requisites
Prerequisite: CIS 840.

Typically Offered
Other

CIS 960 - Theory of Data Base Systems

Credits: 3

Advanced topics in data base systems including distributed data bases, integrity, security, normalization, data base machines, performance models, query languages.

Repeat for Credit
Y

Requisites
Prerequisite: CIS 840.

Typically Offered
Other

CIS 990 - Research Topics

Credits: 2-3

Study of current topics in computer science.

Note
Permission of the instructor.

Repeat for Credit
Y

Typically Offered
Other

CIS 999 - Research in Computer Science

Credits: 1-18

Research in Computer Science

Repeat for Credit
Y

Typically Offered
Other

CLSCS 105 - Medical Terminology: Latin and Greek for Scientists

Credits: 2

This course provides students with the framework and experience required to understand and use scientific and medical terminology.

Note
No prior knowledge of either Latin or Greek is required. Course may not be applied toward the fulfillment of either language or humanities requirements for any degree.

Repeat for Credit
N

Typically Offered
Other

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

CLSCS 309 - Introduction to Classical Literature in Translation

Credits: 3

Introduction to the canonical works of Greek and Roman literature in translation. Discussion of classical texts in English translation with ample attention paid to material culture, visual media and classical culture.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Historical Perspectives

CLSCS 310 - Introduction to Classical Mythology in Translation

Credits: 3

Introduction to the mythology of Greece and Rome through examinations of their literature (in English) and material culture.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

CLSCS 501 - Topics in Classical Literature in Translation

Credits: 3

A detailed survey of Greek and/or Roman literature in translation.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

CLSCS 502 - Topics in Classical Studies

Credits: 3

Focuses on different aspects of ancient Greek and Roman

culture. Greek society and culture, Roman society and culture, Greco-Roman religion, and ancient ethnography are among the potential topics of this course.

Note
Lecture and discussions. All readings will be in English.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives
Historical Perspectives

CLSCS 549 - Special Studies in Classics

Credits: 1-5

Independent study in Classics, Latin, or Greek.

Note
Instructor consent

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

CMST 104 - Database Management

Credits: 2

An introduction to using a database management system on a personal computer. Students begin with elementary database commands and progress to more sophisticated database applications. Students are required to complete assignments on the computer, some of which are completed outside of class.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

CMST 108 - PC Desktop Software

Credits: 3

The use and application of popular software application packages. Topics include word processors, electronic spreadsheets, database management systems, and presentation software. Students are required to complete assignments on the computer, some of which are completed outside of class.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

CMST 110 - Introduction to Visual Basic

Credits: 3

Computer programming using Visual Basic for students who are not majoring in computer systems technology or web development technology. Topics include variable and constant declarations, data types, arithmetic expressions, decision structures, repetition structures, sequential files and arrays. Emphasis on problem solving and program structure.

Repeat for Credit
N

Requisites
Corequisite: MATH 100.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

CMST 115 - Graphics Software Applications

Credits: 3

Introduction to popular graphics software application packages. Emphasis is on design concepts, color usage,

image and concept development and creative problem solving using graphics software. Students are required to complete assignments on the computer, some of which are completed outside of class.

Repeat for Credit
N

Requisites
Prerequisite: Experience with PC software.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

CMST 135 - Web Fundamentals

Credits: 3

Concepts of communications across the Internet, and the technology required to create web pages. Topics include ethical use of the web and accessibility issues for disabled visitors. In-depth coverage of web page construction and styling.

Repeat for Credit
N

Requisites
Prerequisite: Experience with PC software.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Empirical and Quantitative Reasoning

CMST 146 - Digital Photography

Credits: 3

Introduces basic photographic techniques and computer assisted image manipulation. Topics include: basic camera functions, basic digital image processing, visualization and design skills and digital manipulation techniques needed in today's market place. Students have opportunities to create portfolio pieces.

Repeat for Credit
N

Requisites
Prerequisite: Experience with PC software.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Empirical and Quantitative Reasoning

CMST 183 - Computer Systems Studio I

Credits: 1

Students begin a portfolio of projects that connect the topics covered in CYBR 103, CMST 135, required general education courses, and other relevant subjects.

Note
Two hours studio per week.

Repeat for Credit
N

Requisites
Corequisite: CYBR 103 and CMST 135.

Typically Offered
Fall

CMST 185 - Computer Systems Studio II

Credits: 1

Students add to their portfolios projects that connect the topics covered in CYBR 250, CYBR 247, past required CMST and general education courses, and other relevant subjects.

Note
Two hours studio per week.

Repeat for Credit
N

Requisites
Corequisite: CMST 183 and CYBR 247 and CYBR 250, or CC 210

Typically Offered
Spring

CMST 190 - Information Engineering for Data Science

Credits: 1

This course introduces the fundamentals of data science within an operationalized setting. Topics include: data modeling, data structures, data programming (using SQL), data wrangling, descriptive statistical analysis, and version control (Github).

Repeat for Credit
N

Requisites
Prerequisite: MATH 100, MLAS 100 or CYBR 103

Typically Offered
Fall

CMST 216 - Digital Media I

Credits: 3

Hands-on experience dealing with the elements and principles of digital communications working with industry standard software for photo editing, illustration and page layout. Students have the opportunity to produce portfolio pieces.

Repeat for Credit
N

Requisites
Prerequisite: CMST 115 and CMST 137.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

CMST 252 - System and Software Fundamentals

Credits: 3

An introduction to computer systems with an emphasis on systems software. Systems topics include operating systems, low-level and high-level programming languages, virtualization and an introduction to the theory of computation.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 250.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Historical Perspectives

CMST 270 - Introduction to Unix

Credits: 3

An introduction to using the Unix operating system for programming and system administration. Topics include using the Unix command line interface, file attributes, editing text files, and programming with shell script and other interpreted languages.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CMST 102 and CYBR 247.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

CMST 283 - Computer Systems Studio III

Credits: 1

Students add to their portfolios projects that connect the topics covered in CYBR 180, CYBR 335, past required CMST and general education courses, and other relevant subjects.

Note

Two hours studio per week.

Repeat for Credit
N

Requisites
Prerequisite: CMST 185.
Corequisite: CYBR 180 and CYBR 335.

Typically Offered
Fall

CMST 285 - Web Certificate Capstone Studio

Credits: 1

Students prepare a portfolio of projects demonstrating their achievement of the student learning outcomes for the web development certificate.

Repeat for Credit
N

Requisites
Corequisite: CYBR 247

Typically Offered
Spring

CMST 290 - Scientific Programming and Machine Learning

Credits: 1

This course introduces students to the field of machine learning. Students learn the algorithms which underpin many popular machine learning techniques, as well as developing an understanding of the theoretical relationships between these algorithms. Topics include: supervised learning (regression [simple, multi, and logistic]), (classification [binary, multi, imbalanced]), and unsupervised learning (dimensionality reduction, principal components, cluster analysis).

Repeat for Credit
N

Requisites
Prerequisite: MATH 100, MLAS 100 or CYBR 103

Typically Offered
Spring

CMST 299 - Topics in Computer Systems Technology

Credits: 1-18

Provides an opportunity for faculty to present computer systems technology topics.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

CMST 302 - Applications in C Programming for Engineering Technology

Credits: 3

An introduction to structured program design and implementation using the C programming language. Topics include use of the C language in calculations, input, output, and file handling. Students design, implement, and test programs applicable to engineering technology majors.

Repeat for Credit
N

Requisites
Prerequisite: Experience with PC software.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

CMST 310 - Visual Basic Programming

Credits: 3

An in-depth study of Visual Basic as an object-oriented language for students having had previous college-level computer programming courses. Topics include advanced database manipulation, MDI programming, creation of controls, web forms, and help files. Assignments focus on large programming projects. Students design, implement,

and present a final capstone course project.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 180; and CYBR 247 or equivalent.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

CMST 315 - Introduction to System Administration

Credits: 3

An in-depth study of network and server administration. Topics include network design, hardware and software selection, server and client installation, management of network services, file and network resource administration, configuration of permissions and policies, and server monitoring and tuning.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Corerequisite: CMST 252.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

CMST 317 - C# Programming

Credits: 3

An in-depth study of the Microsoft C# language and its applications. C# is a development tool within the .NET framework. Students use the language to develop a wide variety of applications including stand-alone applications and those providing access to databases and Web services.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 247.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

CMST 323 - Game Programming

Credits: 3

An introduction to computer game programming. Topics include game mathematics and physics, tile-based virtual worlds, artificial intelligence,and game graphics. Students design, develop, and present a functioning computer game as a capstone course project.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 247 and PHYS 113.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Empirical and Quantitative Reasoning

CMST 326 - Page Layout and Type

Credits: 3

An intermediate course dealing with typographic design concepts, color usage, image development, idea development, and creative problem solving. Addresses typographic principles, techniques and development of a personal style to create typographic designs that are technically sound and visually interesting.

Repeat for Credit
N

Requisites
Prerequisite: CMST 216.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Empirical and Quantitative Reasoning

CMST 332 - Web Development Project

Credits: 3

Each student implements a major web site. Students apply system analysis concepts to design a working website using graphics, security, and information processing.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 335.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Empirical and Quantitative Reasoning

CMST 333 - Computer Systems/Digital Media Portfolio Defense

Credits: 1

This course prepares students to complete, evaluate, and defend their sophomore-level portfolio. Students will have the opportunity to present a collection of project-based materials and reflective information regarding assignments that demonstrate various dimensions of web development, computer systems technology, and digital media technology.

Repeat for Credit
N

Requisites
Prerequisite: CMST 283 or CC 310
Corequisite: CMST 332

Typically Offered
Spring

CMST 336 - Digital Media Project

Credits: 3

Provides sophomores with the capstone experience of developing a professional quality project in digital media. Students learn problem solving through the design process used in digital media development.

Repeat for Credit
N

Requisites
Prerequisite: CMST 216 and sophomore standing.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Empirical and Quantitative Reasoning

CMST 341 - C++ Programming

Credits: 3

An in-depth study of C++ as an object-oriented programming language for students having had previous college level computer programming courses. Students write Windows applications using classes, MFC, and managed and unmanaged code. Programs involve Windows interfacing, exception handling, database access, COM and the creation of DLLs. Each student individually completes a final capstone course project.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 247.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

CMST 344 - Internetworking

Credits: 3

Concepts and principles of internetworking with TCP/IP. Topics include IP addressing, subnetting, transport services, internet architecture, routing strategies, and TCP/IP applications. Students implement and analyze various internet topologies and router configurations through hands-on activities.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 250.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

CMST 347 - Java Programming II

Credits: 3

An in-depth study of Java as a web programming language. Topics include exception handling, file I/O, advanced programming techniques and data structures, Java applets, multithreaded programming, client/server communication, and database and web connectivity. Students design, implement, and present a final capstone course project.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 247.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

CMST 350 - Unix Administration

Credits: 3

The essentials of administering the Unix operating system. Topics include Unix installation and loading, an in-depth look at its file system, software installation, user configuration, handling security, modems, networking, and configuration of network services.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 250 and CMST 270.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

CMST 355 - Network Programming

Credits: 3

Concepts and techniques of developing computer programs that communicate over a network using the TCP/IP and UDP/IP protocols. The course examines the use of sockets to communicate between a client and a server focusing on application-layer protocols commonly used on the Internet. Application layer topics and protocols studied include DNS, web (HTTP, HTML, and XML), electronic mail (SMTP, MIME, POP, and IMAP) and secure communication (SSL and TLS). Asynchronous and multithreaded programming technologies are studied as client and server applications are developed.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 247 and CYBR 250.

Typically Offered
Summer

K-State 8
Empirical and Quantitative Reasoning

CMST 356 - Motion Graphics Technology

Credits: 3

A continuation of previous digital media courses. Includes an exploration of the various tools and processes associated with creating digital video, animation, and motion graphics. Students the the opportunity to produce portfolio pieces.

Repeat for Credit
N

Requisites
Prerequisite: CMST 336.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

CMST 370 - Applied Data Structures

Credits: 3

A systematic study of data structures and algorithms organized around the unifying concept of data abstraction. Topics include abstract data types, stacks, queues, linked lists, trees, hash tables, heaps, sorting, and searching. The implementations of these data types using object-based constructs are studied and compared with respect to algorithms running times.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 247.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

CMST 383 - Programming and Data Structures Studio

Credits: 3-6

Students complete projects that tie together topics related to large application programming. Content topics include tools and methodologies for large program development, testing strategies, data structures and other relevant subjects.

Note
Nine hours studio per week.

Repeat for Credit
N

Requisites
Prerequisite: CMST 333 and MATH 100.

Typically Offered
Fall

CMST 385 - Systems and Database Administration Studio

Credits: 3-6

Students complete projects that tie together topics related to systems and database administration. Content topics include advanced database, network infrastructure, security, multi-platform support, systems integration and other relevant subjects.

Note
Nine hours studio per week.

Repeat for Credit
N

Requisites
Prerequisite: CMST 383.

Typically Offered
Spring

CMST 420 - Advanced Database Systems

Credits: 3

An in-depth study of the theoretical foundations of database design, implementation, and management as well as social and ethical issues associated with database design. Topics include the enhanced E-R model, object-oriented model, distributed databases, advanced SQL, security, data warehousing and mining. Students design, implement, and present a capstone course project.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 180 and level 2 programming language elective.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

CMST 445 - Network Security

Credits: 3

An in-depth study of the information and skills needed to

design, install, configure, secure, and administer the interface between a LAN and the Internet. Emphasis is on designing and implementing secure systems communicating within a TCP/IP environment.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CMST 315 or 350.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

CMST 470 - Applied Algorithm Design

Credits: 3

Techniques of algorithm design including greedy, divide and conquer, dynamic programming, backtracking and branch-and-bound. Covers algorithmic solutions to problems from a variety of application areas including games, graphs and encryption. Emphasis is on programming assignments that enable students to develop their problem solving and algorithm design skills.

Repeat for Credit
N

Requisites
Prerequisite: CMST 370 and level 2 programming language elective.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

CMST 483 - Emerging Technologies Studio

Credits: 3-6

Students practice life-long learning and research methods by completing projects that combine previously learned material with newly emerging technologies that the students must research and analyze.

Note
Nine hours studio per week.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing.

Typically Offered
Fall

CMST 485 - Computer Systems Senior Capstone Project

Credits: 6

A sequel to CYBR 460 in which students work individually or in teams to develop a significant project in their area of interest. Students are expected to apply the software engineering methodologies from CYBR 460, write project documentation, and make verbal presentations. Whenever feasible, real-world projects are solicited from local businesses.

Note
Nine hours studio per week.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 460.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

CMST 499 - Advanced Topics in Computer Systems Technology

Credits: 1-18

Provides an opportunity for faculty to present advanced computer systems technology topics.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

CNRES 300 - Introduction to Conflict Resolution

Credits: 3

This course is a survey of conflict resolution strategies that will provide students with the knowledge and applicable skills to be better classmates, friends, and co-workers in their future careers. It is applicable for a wide array of majors and disciplines. Emphasis will be given equally to foundational concepts of how to manage conflict more effectively, as well as in-class exercises that allow students to practice these new skills.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences
Ethical Reasoning and Responsibility

CNRES 500 - Topics in Conflict Resolution and Trauma Studies

Credits: 1-3

Independent study on topics in conflict resolution and trauma studies.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CNRES 528 - Alternative Dispute Resolution Approaches

Credits: 3

Through a practice-based approach, this course presents conflict resolution skills, models and procedures. Alternative dispute resolution approaches include mediation, negotiation, and facilitation. Completion of course will meet the Kansas Office of Dispute Resolution's training requirements for approval in core mediation as outlined in the Dispute Resolution Act, K.S.A. 5-509 and Rule 911.

Note
Intended for Undergraduate students sophomore or above

Repeat for Credit
N

Typically Offered
Fall

CNRES 529 - Trauma and Traumatic Stress

Credits: 3

This course will introduce and review the theoretical and historical beginnings of the concept of trauma, which includes the inclusion of post-traumatic stress disorder (PTSD) as a diagnosis in the DSM III. It will highlight the other forms of recognized traumatic events and stressors that have more recently been brought to light. It will discuss various trauma reactions, effects of stressful events, as well as the treatment of trauma. Resilience and transcendence of trauma will be outlined, with an emphasis on the importance of self-care for clinicians and helping professional working in this area.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Social Sciences

CNRES 530 - Coping with Life Crises

Credits: 3

The purpose of this course is to provide students with resources related to managing stress and coping with crises across the lifespan that can be utilized in both their own lives and in the lives of those families they serve. Students will be introduced to the biopsychosocial nature of stress; methods of coping with stress, anxiety, and conflict; models of effective family functioning in the presence of stress and crises; and the current literature on how families cope with a variety of life transitions and crises.

Repeat for Credit
N

Typically Offered
Summer

K-State 8
Social Sciences

CNRES 531 - Interpersonal Conflict Resolution

Credits: 3

This course focuses on a set of interpersonal conflict resolution skills and strategies to help manage and resolve disputes. It is designed to help individuals deal with differences and address conflict on a personal level.

Note
Intended for undergraduates at the sophomore or above level.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

CNRES 532 - Conflict Resolution across Cultures & Contexts

Credits: 3

The course explores the cultural components of conflict by examining the dynamics of interpersonal beliefs and socialization, cross cultural conflict theory, and issues related to application in a variety of settings. This course is designed to be an exercise in critical thinking, cultural exploration, and self-reflection.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Social Sciences

CNRES 533 - Prevention & Intervention of Violence

Credits: 3

This course includes an introduction to a range of violence intervention and prevention approaches developed for use as the interpersonal, intergroup, and societal level. Various theories of human aggression and violence and their underlying assumptions about human nature and the causes of violence will be examined.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

CNRES 534 - Conflict in Organizations

Credits: 3

This course focuses on the causes and sources of conflict within organizations and groups, dispute systems assessment and design, and how conflict resolution professionals work as interveners and agents of change. Students will also explore and identify their own professional consultation strengths and interests.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Human Diversity within the U.S.
Social Sciences

CNRES 535 - Divorce and Child Custody Mediation

Credits: 3

This course focuses on mediation as an approach for

couples wishing to create divorce settlements through a cooperative, confidential, and private process. Divorce and child-custody is considered as a family problem and not a legal problem. It addresses the psychological, financial, and legal dimensions of divorce in conflict resolution settings.

Repeat for Credit
N

Requisites
Prerequisite: CNRES 528

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

CNRES 536 - Conflict and Trauma in International Settings

Credits: 3

This course study will examine the historical, political, and religious roots of conflict in an international setting. The focus of study will also include an analysis of the area's cultural traditions and exploration into the ways in which divided societies cope with attendant political, economic, and social problems. Prospects for continued and sustainable peace in this region, as well as how progress is being made will also be examined.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Social Sciences

CNRES 537 - Elder and Family Decision Making

Credits: 3

This course focuses on the specialized skills and techniques for successfully facilitating adult family conversations around issues such as living arrangements, caregiving, driving, medical decisions, family communication, financial planning, inheritance/personal property distribution, trusts and estates.

Repeat for Credit
N

Typically Offered
Intersession

CNRES 538 - Advanced Trauma and Traumatic Stress

Credits: 3

This course will examine a broad range of traumatic experiences and their associated biopsychosocial outcomes. A variety of topics including military trauma, childhood abuse, sexual assault, intimate partner violence, human trafficking, natural disasters, and terrorism, among others, will be addressed. We will also discuss various mental, emotional, and interpersonal reactions to traumatic life events, as well as traditional and alternative treatment approaches for trauma-related diagnoses. Factors that contribute to posttraumatic growth will be highlighted, with an emphasis on examining effective community-based resources for the successful treatment of traumatic stress.

Repeat for Credit
N

Requisites
Prerequisite: CNRES 529.

Typically Offered
Intersession

CNRES 539 - Grief and Loss Across the Lifespan

Credits: 3

This course offers an introduction to theories of grief and loss as well as an overview of how loss affects individuals and families according to their developmental stages. Theoretical bases of study would include both individual and family-based models. Another component covers coping and treatment approaches, with a special emphasis on working with families coping with grief in the professional sphere.

Repeat for Credit
N

Typically Offered
Intersession

CNRES 599 - Conflict Resolution Practicum

Credits: 3

Co-mediation training with Kansas state-approved mediators. Training consists of supervised mentoring and practice in conflict resolution.

Repeat for Credit
Y

Requisites
Prerequisites: CNRES 531 and CNRES 535.

Typically Offered
Fall, Spring, Summer

CNRES 700 - Topics in Conflict Resolution and Trauma Studies

Credits: 0-3

Independent study on topics in conflict resolution and trauma studies.

Repeat for Credit
Y

Requisites
Prerequisite: CNRES 751

Typically Offered
Fall, Spring, Summer

CNRES 750 - Crises Across the Lifespan

Credits: 3

The purpose of this course is to provide students with resources related to managing stress and coping with crises across the lifespan that can be utilized in both their own lives and the lives of those families they serve. Students will be introduced to the biopsychosocial nature of stress; methods of coping with stress, anxiety, and conflict; models of effective family functioning in the presence of stress and crises; and the current literature on how families cope with a variety of life transitions and crises.

Repeat for Credit
N

Typically Offered
Summer

CNRES 751 - Interpersonal Conflict Skills and Strategies

Credits: 3

This course presents communication theories and interpersonal skills relevant to conflict resolution, including the understanding of, analysis of, and management of conflict.

Note
Intended for Graduate Students

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

CNRES 752 - Culture and Conflict

Credits: 3

This course is an exercise in critical thinking, cultural exploration, and self-reflection. It explores the cultural dimensions of conflict, including the role of culture in defining conflict for individuals and groups. The dynamics of interpersonal beliefs and socialization, cross cultural conflict theory, and issues related to application are also examined.

Repeat for Credit
N

Typically Offered
Fall

CNRES 753 - Violence Prevention and Intervention

Credits: 3

This course examines various theories of human aggression and violence, exploring their underlying assumptions about human nature, and the causes of violence. Included is an introduction to a range of violence intervention and prevention approaches developed for use at the interpersonal, intergroup, and societal level.

Repeat for Credit
N

Typically Offered
Spring

CNRES 754 - Organizational Conflict

Credits: 3

This course provides an overview of the theories, methods, and practice issues involved in identifying and assessing sources of conflict. Students will learn about organizations, organizational development, causes and sources of conflict within organizations, dispute systems design, and how conflict resolution professionals work as interveners and agents of change.

Repeat for Credit
N

Typically Offered
Spring

CNRES 755 - Family Mediation

Credits: 3

This course addresses the multidimensional aspects of divorce, including the legal divorce, the psychological divorce, and children of divorce. The second half of the semester focuses on how mediation can empower families - teens and parents - resolve their interpersonal conflicts using a neutral third party.

Repeat for Credit
N

Requisites
Prerequisite: CNRES 758

Typically Offered
Spring

CNRES 757 - Elder and Family Decision Making

Credits: 3

This course focuses on the specialized skills and techniques for successfully facilitating adult family conversations and around issues such as living arrangements, caregiving, driving, medical decisions, family communication, financial planning, inheritance/personal property distribution, trusts and estates.

Repeat for Credit
N

Typically Offered
Intersession

K-State 8
Human Diversity within the U.S.
Ethical Reasoning and Responsibility

CNRES 758 - Applied Alternative Dispute Resolution

Credits: 3

This course presents conflict resolution skills, models and procedures in a practice-based approach. Alternative dispute resolution approaches include mediation, negotiation, and facilitation. Completion of course will meet the Kansas Office of Dispute Resolution's training requirements for approval in core mediation as outlined in the Dispute Resolution Act, K.S.A. 5-509 and Rule 911.

Note
Intended for Graduate students

Repeat for Credit
N

Typically Offered
Fall

CNRES 759 - Foundations of Trauma and Traumatic Stress

Credits: 3

This course will introduce and review the theoretical and historical beginnings of the concept of trauma, which includes the inclusion of post traumatic stress disorder (PTSD) as a diagnosis in the DSM III. It will highlight the other forms of recognized traumatic events and stressors that have more recently been brought to light. It will discuss various trauma reactions, effects of stressful events, as well as the treatment of trauma. Resilience and transcendence of trauma will be outlined, with an emphasis on the importance of self-care for clinicians and helping professionals working in this area.

Repeat for Credit
N

Typically Offered
Fall

CNRES 761 - International Conflict & Trauma

Credits: 3

This course study will examine the historical, political, and religious routs of conflict in an international setting. The focus of study will also include an analysis of the area's cultural traditions and exploration into the ways in which divided societies cope with the attendant political, economic and social problems. Prospects for continued and sustainable peace in the region, as well as how progress is being made will also be examined.

Repeat for Credit
N

Typically Offered
Spring

CNRES 799 - Practicum in Conflict Resolution

Credits: 3

Co-mediation training with Kansas state-approved mediators. Training consists of supervised mentoring and practice in conflict resolution.

Repeat for Credit
Y

Requisites
Prerequisite: CNRES 751 and CNRES 755

Typically Offered
Other

CNS 010 - CNS New Student 1st Year Workshop 1

Credits: 0

Familiarize entering Construction Science and Engineering students with the nature of the architectural, engineering, and construction industry with an emphasis on terminology and professionalism. Information related to Construction Science and Management, department policies, student organizations, department faculty, and career opportunities will be introduced.

Note
One hour recitation per month

Repeat for Credit
N

Typically Offered
Fall

CNS 012 - CNS New Student 1st Year Workshop 2

Credits: 0

Continued familiarization with the architectural, engineering, and construction industry with a stronger emphasis on terminology and professionalism. Additional Information related to Construction Science and Management, department policies, student organizations, department faculty, and career opportunities will be presented.

Note
One hour recitation per month

Repeat for Credit
N

Typically Offered
Spring

CNS 016 - Construction Seminar

Credits: 0

Presentation of professional problems and practices by students, faculty, contractors, architects, and various organizations associated with the building industry.

Note
One hour lecture a month.

Repeat for Credit
Y

Typically Offered
Spring

CNS 100 - Construction Science and Management Orientation

Credits: 2

Introduction to construction science and management. Promotion of interaction and connection with the department as well as a network of academic and professional networks through the use of learning communities. Familiarize entering students with the nature of the architectural, engineering, and construction industry with an emphasis on terminology and professionalism.

Note
Two hours lecture a week.

Required for all new students during their first year in the program.

Repeat for Credit
N

Typically Offered
Fall, Spring

CNS 110 - History of Building and Construction

Credits: 3

An introduction to the art and science of building. Historical review from ancient to contemporary including related construction methods, equipment, and systems.

Note
Three hours recitation a week.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

CNS 200 - Computer Applications in Engineering and Construction

Credits: 2

Fundamental applications of computer programming and software using engineering and construction problems, primarily advanced use of spreadsheets with macros, data tables, embedded graphics, and presentations.

Note
Four hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite or Concurrent DEN 160: Prerequisite Sophomore standing and MATH 150, or equivalent course in trigonometry. Construction Science and Management majors only.

Typically Offered
Fall, Spring

CNS 210 - Graphic Communication I

Credits: 1

Introduction to graphic communication and methods using orthographic projections, isometrics, and perspective drawings and sketches and their application to the engineering, design, and construction industry.

Note
Two hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: CNS 220. Prerequisite or Concurrent: DEN 160. Department Majors Only.

Typically Offered
Fall, Spring

CNS 220 - Construction Materials

Credits: 2

Study and analysis of construction materials, their properties, selection, and use.

Note

One hour Lecture and one hour recitation a week.

Repeat for Credit
N

Requisites
Prerequisite or Concurrent: MATH 150 or MATH 220. Prerequisite or Concurrent (DEN 160 and ARE 010) or (DEN 160 and CNS 010) or (DEN 160 and ARE 012) or (DEN 160 and CNS 012).

Typically Offered
Fall, Spring

CNS 231 - Statics A

Credits: 3

Composition and resolution of forces; equilibrium of force systems; application of the principles of statics to problems, including force analyses of simple structures.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 150 or equivalent, PHYS 113.

Typically Offered
Fall, Spring

CNS 241 - Strength of Materials and Analysis

Credits: 3

Study of behavior of materials subjected to tension, compression, shear, and bending; analysis of beams and columns.

Repeat for Credit
N

Requisites
Prerequisite: CNS 231.

Typically Offered
Fall, Spring

CNS 242 - Strength of Materials Lab

Credits: 1

Tests to determine the physical properties of various structural materials. Analysis and interpretation of test data.

Repeat for Credit
N

Requisites
Prerequisite or Concurrent enrollment: CNS 241

Typically Offered
Fall, Spring

CNS 310 - Introduction to Building Information Modeling

Credits: 2

Introduction and application of building information modeling as a technology tool related to the management of the building process for projects in the engineering and construction industry.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisites: CNS 200, CNS 321.

Typically Offered
Fall, Spring

CNS 321 - Graphic Communications II

Credits: 3

Study of construction methods and procedures in the assembly of building materials.

Note
One hour recitation and six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 210, 220. Prerequisite or Concurrent: ARE 010 and ARE 012 OR CNS 010 AND CNS 012. Departmental Majors Only.

Typically Offered
Fall, Spring

CNS 325 - Construction Documents

Credits: 3

A study of reading, understanding, and analysis of documents used in construction: building codes, accessibility standards, specifications, drawings, shop drawing submittals and other related documents.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 321.

Typically Offered
Fall, Spring

CNS 330 - Site Construction

Credits: 3

Study of site construction problems and procedures, site survey and investigations, review of site plans, construction layouts, earthwork calculation, excavation/shoring methods, computer applications.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CE 212, CNS 200, CNS 210, CNS 220, ENGL 200, and PHYS 113. Construction Science and Management Majors only.

Typically Offered
Fall, Spring

CNS 440 - Construction Methods and Equipment

Credits: 3

Operations, costs, productivity of construction equipment. Investments/life cycle costing of the equipment. Equipment selection criteria and analysis. Construction methods.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 321, CNS 330, COMM 106, ACCTG 231, and prerequisite or concurrent CNS 241.

Typically Offered
Fall, Spring

CNS 497 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research projects.

Repeat for Credit
Y

Typically Offered
Fall, Spring

CNS 499 - Honors Research in Construction Science

Credits: 1-18

Individual research problem selected with approval of faculty advisor. A report is presented orally and in writing during the last semester.

Repeat for Credit
Y

Typically Offered
Fall, Spring

CNS 510 - Technology for Management of the Construction Process

Credits: 2

Fundamentals and application of computer aided

technology in the management of the construction process.

Note
One hour recitation and one hour lab per week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 310, CNS 641, and CNS 645.

Typically Offered
Fall, Spring

CNS 524 - Steel and Timber Construction

Credits: 3

Principles of design, fabrication, and erection of structural steel and timber structures in conformance with codes.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 241.

Typically Offered
Fall, Spring

CNS 528 - Concrete and Masonry Construction

Credits: 3

Principles of design, fabrication, and erection of concrete and masonry structures.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 241.

Typically Offered
Fall, Spring

CNS 534 - Heating and Air Conditioning

Credits: 3

Principles of designing, applying, and installing heating and air conditioning systems for buildings.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 321.

Typically Offered
Fall, Spring

CNS 535 - Electrical and Lighting

Credits: 3

Basic design and construction of building electrical, lighting, and distribution systems with emphasis on the National Electrical Code and installation.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 321.

Typically Offered
Fall, Spring

CNS 536 - Water Supply and Plumbing

Credits: 3

Principles and practices of the design and layout of plumbing and fire protection, and individual waste treatment systems for buildings including code requirements and estimating.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 321.

Typically Offered
Fall, Spring

CNS 542 - Ethics and Professional Standards

Credits: 1

An application of the concepts of ethics as applied to the professional standards of the design and construction industry.

Note
Two hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite or Concurrent: CNS 440.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

CNS 544 - Problems in Construction Science

Credits: 1-18

A study of specific design problems under the direct supervision of a member of the construction science faculty.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall, Spring, Summer

CNS 545 - Heavy Construction Methods

Credits: 3

Principles of asphalt, asphalt and concrete paving operations, concrete batch plant operations, heavy construction equipment and applications.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 325, CNS 440.

Typically Offered
Fall

CNS 550 - Construction Safety

Credits: 2

Introduction to safety and safety programs, workers' compensation, OSHA organization and structure, safety policies and record keeping, safety standards. Emphasis will be on communication and job-site safety management. On-site safety inspections will be required within class presentation and written reports to be submitted.

Note
Two hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: CNS 535 and CNS 440.

Typically Offered
Spring

CNS 610 - Pre-Engineered Metal Buildings

Credits: 2

Pre-engineered metal building systems: history, components, erection procedures and sequencing, delivery considerations, quality control, safety, and quantity surveying and plan reading.

Note
Two hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: Professional program standing in construction science and management or graduate student in architectural engineering.

Typically Offered
On sufficient demand

CNS 628 - Precast and Prestressed Concrete Construction Management

Credits: 3

Basics of concrete, principles of precast and prestressed concrete, construction operations of transportation and commercial projects, plant manufacturing, site erection, and safety procedures, and business management of a precast manufacturing plant.

Repeat for Credit
N

Requisites
Prerequisite: CNS 241 Strength of Materials and CNS 440 Construction Methods and Equipment

Typically Offered
Fall

CNS 629 - Tilt-up Concrete Structures in Construction Management

Credits: 2

Basics of concrete, principles of tilt-up concrete, construction operations of tilt-up projects, planning procedures for job site erection, and safety procedures.

Note
Two hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 220.

Typically Offered
On sufficient demand

CNS 634 - Building Systems Commissioning

Credits: 2

Principles and methods of proper procedures for installing, commissioning and maintaining efficient performance of building envelope and support systems including mechanical and electrical systems.

Note
Two hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: Either CNS 534, CNS 535, and CNS 536 or ARE 561 and ARE 562.

Typically Offered
On Sufficient Demand

CNS 641 - Construction Estimating

Credits: 3

Understanding estimating procedures, quantity surveying, specification reviews, pricing of an estimate, market analysis, subcontractor and supplier solicitation, and risk management, following the CSI format.

Note
Nine hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 325 and CNS 440.
Concurrent enrollment: CNS 645.
Prerequisite or concurrent enrollment: CNS 642.

Typically Offered
Fall, Spring

CNS 642 - Construction Management

Credits: 3

An introduction to the business of construction; study of legal considerations, contract documents, bonds and insurance. Evaluation of the characteristics of the construction firm, organization structure, and financial performance.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 440.

Typically Offered
Fall, Spring

CNS 643 - Preconstruction Services/Design Build

Credits: 3

Application of Value Engineering to the construction process, Conceptual Estimating, Onscreen take-off quantity surveying, Design-Build. Other project delivery types and their impact on the preconstruction efforts including general contractor pricing, fees, contingencies, risk, and schedule impacts.

Note
3 hours recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 641, CNS 642, and CNS 645.

Typically Offered
Fall, Spring

CNS 644 - Topics in Construction Management

Credits: 1-18

Topical material of importance in the management of construction such as marketing, ethics, personnel management, etc.

Repeat for Credit
Y

Requisites
Prerequisite or concurrent enrollment: CNS 642.

Typically Offered
Fall, Spring

CNS 645 - Construction Scheduling and Cost Control

Credits: 3

Construction cost reporting and control. Construction planning, both long-term and short-interval, construction scheduling, monitoring, and controlling. Computer application.

Note
Two hours recitation and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 440 and concurrent enrollment in CNS 641.

Typically Offered
Fall, Spring

CNS 646 - Construction Financial Management

Credits: 2

Principles and applications of financial management for the construction professional. Includes financial statements, cost control, cash flow, and risk management.

Note
Two hours recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 641, CNS 642, and CNS 645.

Typically Offered
Fall, Spring

CNS 655 - Current Trends in Construction

Credits: 2

Broad overview of relevant topics in the construction industry in the areas of project management, field supervision, estimating, contracting, and various other special topics, taught by industry professionals who specialize in their area of expertise.

Repeat for Credit
N

Requisites
Prerequisite: CNS 641.
Prerequisite or concurrent CNS 550.

Typically Offered
Fall, Spring

CNS 660 - Construction Operations

Credits: 3

Shop drawing and submittal processes, field and office practices, change orders, construction safety standards and practice, pre-construction planning, expediting, short-interval planning.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 542, CNS 641, CNS 642, and CNS 645.
Prerequisite or concurrent enrollment: CNS, 510, CNS 550.

Typically Offered
Fall, Spring

CNS 738 - Mechanical and Electrical Estimating

Credits: 2

Principles and practices of mechanical and electrical building systems estimating. Procedure for evaluating relative costs of different plumbing, HVAC, and electrical/lighting systems.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CNS 534 or ARE 562, CNS 536 or ARE 561, and prerequisite or concurrent enrollment: CNS 535.

Typically Offered
Fall, Spring

COMM 105 - Public Speaking IA

Credits: 2

Alternate to COMM 106. Principles and practice of message preparation, audience analysis, presentational skills, and speech criticism.

Note
Primarily granted for students whose curricula require a 2-credit hour course. Credit not granted for both COMM 105 and 106.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

COMM 106 - Public Speaking I

Credits: 3

Principles and practice of message preparation, audience analysis, presentational skills, and speech criticism permitting greater practice in oral presentation.

Note
Credit not granted for both COMM 105 and 106.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
2 Communication

COMM 109 - Public Speaking 1A, Honors

Credits: 3

Honors speech preparation and delivery; a survey of topics basic to rhetoric, communication, and linguistics.

Note
For arts and sciences honors students.

Repeat for Credit

N

Typically Offered
Fall, Spring

K-State Core
2 Communication

COMM 120 - Introduction to Human Communication

Credits: 3

An introduction to the traditions, foundations and contexts of human communication that are studied and practiced in society.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

COMM 130 - Interpersonal Communication

Credits: 3

Examination of the dynamics of face-to-face interpersonal interaction. Focus is on applying principles of relational communication.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Human Diversity within the U.S.
Social Sciences

COMM 210 - Forensics, Debate, or Mock Trial Participation

Credits: 0-1

Semester-long participation in K-State Debate, K-State Speech, or K-State Mock Trial.

Note
Consent of director of the activity

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

COMM 260 - Introduction to Trial Advocacy

Credits: 3

A hands-on introduction to communication in the legal process, with a primary focus on basic techniques attorneys use to develop and present a persuasive case.

Repeat for Credit
N

Requisites
Prerequisite: Instructor permission.

Typically Offered
Spring-Even Years

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Empirical and Quantitative Reasoning

COMM 311 - Business and Professional Speaking

Credits: 3

Principles and practice of speaking in an organizational setting. Areas of emphasis will be oral reports, interviewing, interpersonal communication, and working in groups.

Repeat for Credit
N

Requisites
Prerequisite: COMM 105 or COMM 106.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Ethical Reasoning and Responsibility

COMM 320 - Theories of Human Communication

Credits: 3

Survey of basic theories of human communication focusing on sending, receiving, and responding to messages face-to-face.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Social Sciences

COMM 321 - Advanced Public Speaking

Credits: 3

Advanced principles and practices of speech composition, audience adaptation, and delivery.

Repeat for Credit
N

Requisites
Prerequisite: COMM 105 or COMM 106 or COMM 109.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

COMM 323 - Nonverbal Communication

Credits: 3

Analysis of nonverbal communication in human interaction; theory and research in kinesics, proxemics, and paralinguistics.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

COMM 325 - Argumentation and Debate

Credits: 3

Basic theories of argumentation with emphasis on the construction and criticism of well reasoned and supported positions.

Repeat for Credit
N

Requisites
Prerequisite: COMM 105 or COMM 106.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

COMM 326 - Group Communication

Credits: 3

Builds conceptual knowledge and practical skills in group communication, enabling students to be more effective group members, leaders, and organizers.

Repeat for Credit
N

Requisites
Prerequisite: COMM 105, COMM 106 or COMM 109

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

COMM 328 - Professional Interviewing

Credits: 3

Investigation of interviewing as it occurs in a variety of situations, including journalistic, diagnostic, persuasive, and managerial. Emphasis on developing practical skills in planning, managing interviews, and interpreting data in the professional context.

Repeat for Credit
N

Requisites
Prerequisite: COMM 105 or COMM 106.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Empirical and Quantitative Reasoning

COMM 330 - Rhetoric in Civic Life

Credits: 3

Introduction of rhetorical theory and application of rhetorical concepts to personal experiences of and participation in civic life.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Historical Perspectives

COMM 332 - Communication and Technology

Credits: 3

Focus on social and interpersonal topics, including how emerging media technologies are understood and the history of forms of communication technology via the Internet and mobile devices. Additional topics include diversity, political and civic engagement, intercultural communication, impression formation and management in online contexts, and relational maintenance.

Repeat for Credit
N

Typically Offered
Fall, Summer

K-State 8
Human Diversity within the U.S.
Social Sciences

COMM 399 - Honors Seminar Small Group Communication

Credits: 3

Open only to qualified students in the arts and sciences honors program.

Repeat for Credit
Y

Typically Offered
Spring

COMM 419 - Intercollegiate Forensics, Debate, or Mock Trial

Credits: 3

Current practices, theories, and involvement for competitive intercollegiate forensics, debate, or mock trial activity.

Note
May not be taken concurrent with COMM 210.

Repeat for Credit
N

Requisites
Prerequisite: Consent of director of the activity, and 3 credit hours of COMM 210, and junior/senior status.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

COMM 420 - Gender Communication

Credits: 3

A study of gender as a variable in interpersonal, organizational, and public communication processes.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.

COMM 425 - Organizational Communication

Credits: 3

A survey of processes, practices, and theories of organizing and organizational communication to build conceptual knowledge and practical skill in communicating effectively in organizational contexts.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Historical Perspectives
Social Sciences

COMM 426 - Coaching and Directing Speech Activities

Credits: 3

Current practices in coaching curricular and extra-curricular speech activities with practical experience in the problems and procedures of directing a forensic program.

Repeat for Credit
N

Requisites
Prerequisite: Six hours of general communication or theatre courses that are 200 level or above, COMM 325, and THTRE 263.

Typically Offered
Fall

COMM 430 - Freedom of Speech

Credits: 3

A study of communication and legal principles pertaining to freedom of expression, and an examination of their implications for competing interests such as public order, national security, morality, civil rights, and fairness.

Repeat for Credit
N

Requisites
Prerequisite: COMM 105 or COMM 106.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Historical Perspectives

COMM 431 - Criticism of Public Discourse

Credits: 3

An examination of public influence based on study of historical and contemporary models of rhetorical criticism. The students' critical experiences will focus on a broad array of public discourse including political, social, and cultural messages.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Ethical Reasoning and Responsibility

COMM 432 - The Rhetoric of the American Presidency

Credits: 3

An examination of the American presidency from a rhetorical perspective, emphasizing the symbolic resources and duties of the office and those who hold it. Special attention paid to the public discourse of recent presidents during moments of national crisis.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Historical Perspectives

COMM 433 - Communication Research Methods

Credits: 3

This course provides an overview of the concepts, methods, and tools by which communication research is designed and conducted. Methods covered in this course include: focus groups, surveys, experiments, and content analysis. By the end of this term, students should be able to critically consume communication research, understand the process of using social science to solve communication problems, and have experience in conducting your own research project.

Note
In this course you will work both individually and as part of in-class teams.

Repeat for Credit
N

Typically Offered
Spring

COMM 434 - Rhetoric and Social Movements

Credits: 3

A study of the scope and functions of persuasive communication in contemporary social movements.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

COMM 435 - Political Communication

Credits: 3

A study of political discourse. Attention is directed to theory that encompasses political discourse as it affects political behavior.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Historical Perspectives
Social Sciences

COMM 440 - Collaborative Communication and Event Planning

Credits: 3

Study of the role communication plays in collaborative interactions, including program/conference/event planning and civic commemorations. Application of organizational communication theory through planning, analysis, deconstruction, and critique of various collaborative events.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

COMM 442 - Theories of Human Communication Networks

Credits: 3

Examines fundamental social network theories and concepts to understand how human communication networks and relational connections shape, constitute, and influence everyday life in organizational, political, relational, and civic contexts.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Social Sciences

COMM 450 - Special Studies in Human Discourse

Credits: 3

A study of selected subjects in the analysis in human communication.

Repeat for Credit
Y

Typically Offered
Fall, Spring

COMM 460 - Advanced Trial Advocacy

Credits: 3

Advanced study in theory and techniques of courtroom persuasion, emphasizing the complexities of case analysis, courtroom procedures, theme development, and the use of evidence.

Repeat for Credit
N

Requisites
Prerequisite: COMM 260 and/or instructor permission.

Typically Offered
Fall-Even Years

K-State 8
Aesthetic Interpretation

COMM 465 - Communication and Conflict

Credits: 3

Theoretical and applied research in communication and conflictual situations.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Ethical Reasoning and Responsibility

COMM 470 - Building Social and Cultural Connections

Credits: 3

Examines beliefs, worldviews, and communication practices related to identity, diversity, and the building of communities of belonging. Develops skills in communicating beliefs and worldviews; listening; engaging with different perspectives; and using communication processes and platforms to build inclusive and equitable communities.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.

COMM 475 - Legal Communication

Credits: 3

An examination of the vital role communication plays in the practice of law, with an emphasis on communication in the courtroom.

Repeat for Credit
N

Requisites
Prerequisite: COMM 105 or COMM 106, and instructor permission.

Typically Offered
Fall-Odd Years

K-State 8
Aesthetic Interpretation
Social Sciences

COMM 480 - Intercultural Communication

Credits: 3

A study of the relationship between language and culture and its impact on human communication. Examines how language and culture differ among people and how differences are handled through the process of communication.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

COMM 499 - Honors Project

Credits: 3

Honors Project

Note
Open only to Arts & Sciences students who are active members of the University Honors Program.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

COMM 525 - Argumentation Theory

Credits: 3

An advanced study of prominent argumentation theorists, with an in-depth examination of special topics concerning the philosophy, theory, and practice of argumentation.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

COMM 526 - Persuasion

Credits: 3

The study of communication as persuasion; examination of contemporary approaches to persuasion.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Social Sciences

COMM 535 - Communication and Leadership

Credits: 3

A study of the ways in which leadership in differing contexts is defined and exercised through communication. Constructs examined include: credibility, charisma, vision, power, myth, and public memory.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

COMM 537 - Negotiation and Communication

Credits: 3

Develops conceptual knowledge and skill in negotiation in multiple contexts and examines the constitutive nature of communication in the negotiation process.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

COMM 542 - Relational Communication

Credits: 3

A survey of theories and research on the role of communication in social and personal relationships. Emphasis is on observing and evaluating communication behaviors using real-life media examples.

Repeat for Credit
N

Requisites
Prerequisite: COMM 311, COMM 320, COMM 130, COMM 323, COMM 326, COMM 328, or COMM 480.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Social Sciences

COMM 545 - Communication in Democracy

Credits: 3

Examines the ways in which communication shapes democratic citizenship and participation in the public sphere. Builds communication skills that promote democratic citizenship and participation.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Historical Perspectives
Human Diversity within the U.S.

COMM 550 - Senior Colloquium

Credits: 3

A demonstration of the mastery of vocabulary, theory, and the ability to make practical applications of the study of rhetoric and communication will be required of all senior communication studies majors. Mastery will be demonstrated by completing a senior capstone project and presenting the result of that project to the assembled communication studies faculty and majors in a required colloquium.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing.

Typically Offered
Spring

COMM 551 - Senior Honors Thesis

Credits: 3

Honors Thesis Colloquium.

Note
Open only to seniors in Arts and Sciences Honors program.

Repeat for Credit
N

Typically Offered
Fall, Spring

COMM 552 - Coaching and Mentoring

Credits: 3

Develops language, skills, and perspectives on how to coach and mentor diverse stakeholders in personal and professional contexts. Explores coaching and mentoring as a communication process; applies successful coaching and mentoring communication across different contexts; and identifies the appropriateness of different approaches and requirements for stakeholder needs.

Repeat for Credit
N

Typically Offered
Spring

COMM 575 - Internship in Communication Studies

Credits: 1-3

Students will work for/within an organization during the course of a semester. Interns must complete a minimum of 100 work hours to earn course credit. The internship work experience is intended to help apply formal classroom education to "real World" work experience. Ideally internships are pre-professional and project based experiences allowing students the opportunity to make meaningful contributions to the organization. Each intern will complete a series of deliverables to the internship director as well as work under a site supervisor at the host organization. Prior to registration, the internship director must approve all internships.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

COMM 630 - Special Topics in Rhetoric and Communication

Credits: 3

Intensive study of selected topics in communication and rhetoric.

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Fall, Spring

COMM 632 - Innovation Cultures

Credits: 3

Examines histories, trends, and trajectories in technological innovation from a communication perspective. Develops familiarity with science and technology studies as a tool for evaluating and participating in innovation cultures.

Repeat for Credit
N

Requisites
Prerequisite: COMM 332

Typically Offered
Fall, Spring

COMM 710 - Introduction to Communication Research Methods

Credits: 3

Introduction to descriptive and experimental methodologies in communication, including conceptualization and operationalization of communication concepts, strategies of research design, and logic of inquiry.

Repeat for Credit
N

Typically Offered
Fall

COMM 720 - Perspectives on Communication

Credits: 3

Analysis of current perspectives on the communication process. Materials cover assumptions, principles, implications and selected research within each perspective.

Repeat for Credit
N

Requisites
Prerequisite: COMM 320.

Typically Offered
Fall-Even Years

COMM 726 - Seminar in Persuasion

Credits: 3

Survey and analysis of advanced theory and experimental studies in persuasion.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing.

Typically Offered
Spring-Odd Years

COMM 730 - Classical Rhetorical Theory

Credits: 3

Study of rhetorical theory and criticism from early Greek to Roman times.

Repeat for Credit
N

Typically Offered
Fall

COMM 732 - Contemporary Rhetorical Theory

Credits: 3

Study of major European and American contributors to rhetorical theory in the twentieth century.

Repeat for Credit
N

Requisites
Prerequisite: COMM 730.

Typically Offered
Spring

COMM 733 - Rhetorical Criticism

Credits: 3

Study of traditional and contemporary approaches to the analysis of public discourse.

Repeat for Credit
N

Typically Offered
Spring

COMM 790 - Deliberation & Dialogue Theory

Credits: 3

Explores the conceptual and theoretical underpinnings of the Dialogue, Deliberation, and Public Engagement field, including group theory, civic space, and deliberative democracy.

Repeat for Credit
N

Typically Offered
Fall

COMM 799 - Problems In Communication Studies

Credits: 1-18

Open to students in any communication studies area.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing and consent of instructor.

Typically Offered
Fall, Spring

COMM 800 - Teaching Public Speaking

Credits: 0-1

Seminar for graduate teaching assistants in strategies, techniques, and materials for the introductory public speaking course. Includes current practices and research in communication education. Enrollment limited to graduate teaching assistants in the Department of Communication Studies.

Repeat for Credit
Y

Typically Offered
Fall, Spring

COMM 801 - Instructional Communication

Credits: 3

Study of theory and practice of communication in the classroom including both teacher and student communication. Topics include: integration of modes of communication, language choices, power, humor, communication strategies for instruction, and impact of communication on learning.

Repeat for Credit
N

Typically Offered
Spring

COMM 810 - Research Writing in Communication Studies

Credits: 1

A study of the problems of writing and rewriting the results of scholarly investigations in communication studies.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

COMM 814 - Graduate Studies in Leadership Communication

Credits: 3

This course examines the intersections of community-engaged scholarship and leadership through practices of relationship, story, strategy, and action. Students are introduced to resources and opportunities for pursuing public engagement, community-engaged scholarship, and successful program completion.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
LEAD 814, AGCOM 814

COMM 815 - Seminar in Leadership Communication

Credits: 1

This seminar provides doctoral students opportunities for collaboration and mentorship with peers, faculty, and visiting scholars, and exploration of career pathways in public engagement.

Repeat for Credit
Y

Typically Offered
Other

Cross-listed
LEAD 815, AGCOM 815

COMM 816 - Small Group Communication

Credits: 3

Review literature and develop research projects pertaining to the communication processes in small task groups. Topics include group communication processes, barriers to group communication, and style-specific theories of effective group communication.

Repeat for Credit
N

Requisites
Prerequisite: COMM 326 or senior standing.

Typically Offered
Other

COMM 817 - Relational Communication

Credits: 3

A survey of theories and research on the role of communication in social and personal relationships. Emphasis is on observing and evaluating communication behaviors using real-life media examples.

Repeat for Credit
N

Requisites
Prerequisite: COMM 311, COMM 320, COMM 130, COMM 323, COMM 326, COMM 328, or COMM 480.

Typically Offered
Fall

COMM 820 - Seminar in Communication Studies

Credits: 3

Selected topics in communication studies.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

COMM 821 - Experimental Research in Communication Studies

Credits: 3

Descriptive and experimental methodologies pertinent to investigation in communication studies. Topics will include such techniques as content analysis, attitude scaling, and stylistic analysis.

Repeat for Credit
Y

Requisites
Prerequisite: COMM 520 or equivalent.

Typically Offered
Fall

COMM 822 - Field Research in Communication Studies

Credits: 3

Critical and interpretive methodologies pertinent to investigations in communication studies. Topics will include participant observation, unstructured interviewing, ethnography, and discourse analysis.

Repeat for Credit
Y

Typically Offered
Spring

COMM 823 - Competitive Forensic Theory

Credits: 3

Theory and study of current research in competitive debate and individual events.

Repeat for Credit
N

Requisites
Prerequisite: COMM 426.

Typically Offered
Fall, Spring, Summer

COMM 824 - Language and Social Interaction

Credits: 3

Study of the epistemological, social, and behavioral functions of language in communication. Examination of the processes by which language functions to construct one's worldview and guide individual action.

Repeat for Credit
N

Requisites
Prerequisite: COMM 320 or ANTH 220; junior standing.

Typically Offered
Spring

COMM 825 - History of American Public Address

Credits: 3

Study of American speakers, from the time of Jonathan Edwards to the present, including their education, major speeches, and contributions to the rhetorical history of the United States.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing and consent of the instructor.

Typically Offered
On sufficient demand

COMM 827 - Political & Corporate Speechwriting

Credits: 3

A study of the principles and practice of professional speechwriting with a special emphasis on the role of speechwriting in a democratic society.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

COMM 831 - Deliberation & Dialogue Process Models

Credits: 3

Survey of and introduction to the variety of process models for Dialogue, Deliberation, and Public Engagement, including the following: National Issues Forums, World Cafe, Sustained Dialogue, Appreciative Inquiry, 21st Century Town Hall.

Repeat for Credit
N

Requisites
Prerequisite: COMM 790.

Typically Offered
Fall

COMM 832 - Dialogue, Deliberation, and Public Engagement: Core Skills and Strategies

Credits: 3

Instruction in the assessment of situations and application of theoretical and conceptual frameworks for DDPE to real-world contexts and scenarios.

Repeat for Credit
N

Requisites
Prerequisite: COMM 790 and COMM 791.

Typically Offered
Spring

COMM 833 - Dialogue, Deliberation, and Public Engagement: Capstone Experience

Credits: 3

Focuses on the individualized goals, objectives, and interests of the student, designed to integrate insights from the courses on theoretical foundations, process models, and conceptual frameworks for evaluation and design. Students will meet face-to-face with national leaders to present their research.

Repeat for Credit
N

Requisites
Prerequisite: COMM 790, COMM 791, and COMM 792.

Typically Offered
Intersession

COMM 834 - The Rhetoric of Social Movements

Credits: 3

Study of the theory and criticism of social movement rhetoric. Topics may include the development of movement studies as a distinct genre of scholarship within the field of communication studies, questions and controversies in the rhetorical study of movements, and the rationale for protest tactics, from nonviolence to terrorism.

Repeat for Credit
N

Requisites
Prerequisite: COMM 330, COMM 431, or graduate standing.

Typically Offered
Fall-Even Years

COMM 835 - Leadership Communication

Credits: 3

A study of the role that public discourse plays in attaining, enacting, and constraining leadership in a democratic society.

Repeat for Credit
N

Typically Offered
Spring

COMM 837 - Practicum in Communication and Conflict

Credits: 3-6

Supervised opportunity to apply theoretical information into a self-selected conflict situation in culturally diverse settings

Repeat for Credit
N

Requisites
Prerequisite: COMM 120 and any other required course at or above 300 level.

Typically Offered
Spring, Summer

COMM 840 - Intercultural Communication

Credits: 3

A study of the relationship between language and culture and its impact on human communication. Examines how language and culture differ among people and how differences are handled through the process of communication.

Repeat for Credit
N

Requisites
Prerequisite: COMM 105 or COMM 106.

Typically Offered
Fall, Spring

COMM 843 - Communication and Technology

Credits: 3

Explains, analyzes, and evaluates technological infrastructures in the background of social, economic, and political life. Using a keywords based approach, students test varying definitions of communication technology, seek to understand the relationship between technology and culture, examine the intended and unintended consequences of technology use on society, and evaluate future possibilities for our technological society.

Repeat for Credit
N

Typically Offered
Fall or Spring

COMM 845 - Approaches to Public/Community Engagement

Credits: 3

An advanced survey of key concepts and theoretical frameworks associated with deliberative democracy and public engagement. Focus on theoretical and practical community-engaged scholarship.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
LEAD 845, AGCOM 845

COMM 850 - Political Communication

Credits: 3

Overview of theory and research in the field of political communication. Introduces students to key concepts, research questions, and approaches in the field. Explores how political elites construct their messages and how citizens come to understand their roles in discourse. Topics covered: presidential communication, election campaign discourse, civic discourse and deliberation, and new media and civic/political engagement.

Repeat for Credit
N

Typically Offered
Fall

COMM 899 - Masters Research in Communication

Credits: 1-6

A study of the relationship between language and culture and its impact on human communication.

Repeat for Credit
Y

Requisites
Prerequisite: Sufficient training to carry on the line of research.

Typically Offered
Fall, Spring, Summer

COMM 916 - Communication Theories and Engagement

Credits: 3

Focus on the intersections of communication theory and engagement. Evolution of communication theories. Philosophy and theory pertaining to community-engaged research.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
AGCOM 916

COMM 945 - Social Science Research for Public Problem Solving

Credits: 3

The study of how social science research and social sector evaluation can be applied to address public problems, including the identification of public problems and the critique of current evaluation methods, and applying concepts by developing an evaluation including quantitative and qualitative analysis in partnership with social sector partners.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
AGCOM 945, LEAD 945

COMM 999 - Research in Leadership Communication

Credits: 1-15

Doctoral research demonstrates the candidate's ability to conduct significant original research related to leadership and communication, to analyze the information obtained from the research, and to present the results in a dissertation format appropriate to the field.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

Cross-listed
AGCOM 999, LEAD 999

COT 020 - University Honors Program

Credits: 0

This course is for record keeping purposes to allow the University Honors Program and the College of Technology and Aviation to monitor and track students who are a part of the Honors Program.

Repeat for Credit
Y

Typically Offered
Fall, Spring

COT 105 - Mastering Academic Conversations

Credits: 3

Actively engage students in the process of becoming successful students, scholars, and citizens. Introduction to a successful university experience through participation in interactive seminar classes and co-curricular events. Events and topics include a broad survey of the humanities, examining the impact on culture, society, and the human condition.

Repeat for Credit
N

Requisites
Prerequisite: Freshman or instructor consent.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

COT 150 - The Humanities Through the Arts

Credits: 3

A general introduction to the humanities, focusing on what they are and their basic importance. Painting, sculpture, architecture, literature, drama, music, dance, film, and photography will be explored. Emphasis will be on participation, involvement, guest speakers, tours, and appreciation.

Repeat for Credit
N

Typically Offered

Fall, Spring, Summer

K-State Core
6 Arts and Humanities

COT 175 - Introduction to Cultural Studies

Credits: 3

Introductory survey of core concepts in cultural studies and dimensions of culture, including development of the field and contemporary issues.

Repeat for Credit
N

Typically Offered
Fall or Spring

K-State Core
6 Arts and Humanities

COT 189 - Introduction to University Honors Program

Credits: 1

An overview of the University Honors Program including directions, goals and student requirements for completion of the program.

Repeat for Credit
N

Requisites
Prerequisite: Acceptance into the Honors Program.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

COT 295 - Introductory Industrial Internship

Credits: 0-6

Introductory experiential learning program in an off-campus setting. Written documentation and oral presentation of project goals, experiences, and accomplishments.

Repeat for Credit
Y

Requisites
Prerequisite: Approval of faculty internship advisor and sponsoring company.

Typically Offered
Fall, Spring

COT 298 - Academic Success Lab

Credits: 0

Introduction to and practice in academic study strategies. Topics may include critical thinking, time management, research and information skills, integrity, academic and career planning and goal setting

Repeat for Credit
Y

Typically Offered
Fall, Spring

COT 299 - Problems in Arts, Sciences, and Business

Credits: 1-18

Opportunity for advanced independent study in specific subject areas in Department of Arts, Sciences, and Business.

Note
Subjects are selected by the student and the instructor.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

COT 301 - Six Sigma Analysis and Problem Solving I

Credits: 1

Introduction to Six Sigma process and quality improvement methods and tools, including the Six Sigma problem-

solving approach, voice of the customer, root cause and risk analysis, and process flow improvement. Emphasis on qualitative analysis and introductory statistical tools.

Repeat for Credit
N

Requisites
Prerequisite: MATH 100

Typically Offered
Intersession

COT 302 - Six Sigma Analysis and Problem Solving II

Credits: 1

Application of common statistical methods for Six Sigma improvement projects, including data acquisition, probability, data distributions, and statistically significant change. Builds on the foundation from COT 301 Six Sigma Analysis and Problem Solving I.

Repeat for Credit
N

Requisites
Prerequisite: COT 301

Typically Offered
Intersession

COT 405 - Methods of Problem Solving for Integrated Professional Studies

Credits: 3

Practice in applying creative problem solving methods to a selection of problems solicited from multiple disciplines. Analysis of student solutions will examine similarities and difference between disciplines with regard to strategic exploration, identifying and validating constraints, testing assumptions, defending choices and approaches, and making decisions. Cases are deliberately chosen such that conventional solutions are not immediately apparent, where procedural algorithms and instructional troubleshooting scripts are inadequate or unavailable, and for which exact solutions might not actually exist.

Repeat for Credit
N

Requisites
Prerequisite: Junior Standing.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

COT 450 - Salina International Experience

Credits: 0-6

Seminar and travel course including faculty-led international field experience focused on Salina Campus students' area of interest, with travel followed by a final project. The course is designed to enhance students' global and cultural awareness while adding knowledge and skill in topical issues. In addition, students will be introduced to and immersed in historical components, both disciplinary and cultural.

Repeat for Credit
Y

Requisites
Prerequisite: Instructor consent.

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives

COT 480 - Professional Conduct, Ethics, and Analysis

Credits: 3

Examines the ethical foundations of professional conduct and decision-making in the workplace. Through reading and discussing ethical works, case studies, and contemporary ethical policies/procedures, students will develop the skills necessary for analysis, discourse, and ethical decision-making in a professional work setting.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered

Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

COT 490 - Survey of Cryptography Development, Principles and Practice

Credits: 3

A practical survey of the principles and practice of cryptography with respect to business / government / private applications and commercial computer security systems. Benefits of cryptography as a strategic and tactical tool for effective computer security in the commercial theater of operations. Addresses current topics such as personal privacy, cryptocurrency and blockchain. Students interact with selected cryptographic machines, codes, hand-techniques and computer products developed since the beginning of writing.

Repeat for Credit
N

Typically Offered
Fall

COT 495 - Advanced Industrial Internship

Credits: 0-6

Advanced experiential learning program in an off-campus setting. Written documentation and oral presentation of project goals, experiences, and accomplishments.

Repeat for Credit
Y

Requisites
Prerequisite: Approval of faculty internship advisor and sponsoring company.

Typically Offered
Fall, Spring, Summer

COT 497 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research projects.

Note
Requires consent of instructor.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

COT 499 - Advanced Problems in Arts, Sciences and Business

Credits: 1-18

Opportunity for advanced independent study in specific subject areas in the Department of Arts, Sciences, and Business.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

COT 632 - Radio Frequency Technology for Unmanned Systems

Credits: 3

An introduction to the theory and design of electronic circuits for communications emphasizing the implementation and analysis of common radio-frequency (RF) building blocks. Topics include s-parameters, the Smith chart, component behavior, RF test equipment, computer simulation, filter design, impedance matching, amplifiers, oscillators, mixers, and demodulators.

Note
A report will be required of all graduate students.

Repeat for Credit
N

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Spring

COT 650 - Analytical and Computational Tools for Unmanned Systems

Credits: 3

Ordinary differential equations, vector algebra, vector calculus, partial differential equations and the separation of variables technique for solving wave equations. Students also perform simulation and analysis using software tools including MATLAB and MATHCAD applied to Unmanned Systems.

Repeat for Credit
N

Requisites
Prerequisite: One previous calculus course and consent of instructor.

Typically Offered
Fall

COT 660 - Airport Law

Credits: 3

A detailed study of how the U.S. regulatory and legal systems work in relation to airport management. This course emphasizes contract law related to the Federal Aviation Administration Airport covenants and restrictions, Federal Aviation Regulation compliance, and airport operator liability.

Repeat for Credit
N

Typically Offered
Spring

COT 661 - Airport Planning and Management

Credits: 3

An overview of the Federal Aviation Regulation part 139 airport design standard and airport master planning process. Includes a study of the role of the airport in community development.

Note
Advanced course project required.

Repeat for Credit
N

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall

COT 662 - Aviation Management

Credits: 3

Provides the Professional Master of Technology student with the opportunity to gain a thorough understanding of basic aviation industry management practices in use today combined with historical perspectives. Includes case study analysis.

Repeat for Credit
N

Typically Offered
Fall

COT 663 - UAS Flight Operations Management

Credits: 3

Best practices for managing complex operations of Unmanned Aircraft Systems (UAS) in the National Airspace System (NAS) including topics on: personnel and training, regulatory/policy considerations, airspace access, operating procedures, mission planning, system acquisitions, safety, customer relations, application-specific considerations, and data handling. Emphasis on the handling of unexpected delays and challenges to normal operations.

Repeat for Credit
N

Typically Offered
Fall

COT 664 - UAS Program Management

Credits: 3

Best practices for top-level management of an Unmanned Aircraft Systems (UAS) program, including topics on: strategic planning, business model development, proposals, marketing, customer and government relations, personnel management, data handling and security, export control,

regulatory environment, and operating procedures.

Repeat for Credit
N

Typically Offered
Spring

COT 674 - Processing Techniques for Low-Altitude Remotely Sensed Data

Credits: 3

Students learn techniques for exploring remotely sensed data using geographic information systems and image processing software. Topics include manipulation of vector and raster data, management of spatial databases, image stitching, georeferencing, orthorectification, the use and interpretation of metadata and "best practices" in data management techniques.

Repeat for Credit
N

Requisites
Prerequisite: AVT 460 or AVT 463 or consent of instructor.

Typically Offered
Fall

COT 675 - Acquisition and Advanced Processing of LARS Data

Credits: 3

Topics begun in COT 674 are further developed. Advanced topics include: multi-spectral data acquisition and processing, exploitation of full-motion video, interpretation of geospatial and remotely sensed data, geostatistical methods of data analysis, photogrammetric measurements, and an introduction to big data concepts.

Repeat for Credit
N

Requisites
Prerequisite: COT 674.

Typically Offered
Spring

COT 676 - Low-Altitude Remote-Sensing Product/Project Development

Credits: 3

Building on the skills acquired in COT 674 and 675, students fly a low-altitude remote-sensing mission to obtain geospatial data to process, manipulate, and analyze as the means of developing a finished product in areas of interest to the student. Potential areas of investigation include: precision agriculture, environmental remediation, fire management, wildlife studies, or stewardship of managed ecosystems.

Repeat for Credit
N

Requisites
Prerequisite: COT 675.

Typically Offered
Fall

COT 689 - Conduct and Ethics for Cybersecurity and UAS Professionals

Credits: 3

Explores the constitutional, legal, personal and public policy fundamentals associated with the field of cyber data collection, fusion, integration, and UAV surveillance.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

COT 701 - Advanced Technical Communication

Credits: 3

Intensive writing practice, applying rhetorical principles to a number of genres common to non-academic professions and workplaces, including oral presentations. Introduction to allied topics such as document design and editing, crafting technical presentations. Application of global information literacy and research methods, culminating in the preparation of a master's project proposal.

Repeat for Credit
N

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall

COT 702 - Applied Research Skills and Methods

Credits: 3

Survey of qualitative and quantitative research methods; use of a range of tools to develop applied research skills focusing on literature reviews. Examines applied research concepts, methods, and skills to foster enlightened decision making in professional practice.

Note
Three hours lecture a week.

Repeat for Credit
N

Typically Offered
Spring

COT 703 - Project Management for Professionals

Credits: 3

This course focuses on applied project management methodology, tools, and techniques. Topics include career aspects of project management; business factors affecting the project; project organization, planning, execution, and communications; the project life cycle; risk analysis; and best practices in project management.

Repeat for Credit
N

Typically Offered
Fall

COT 704 - Managerial Finances, Metrics, and Analytics

Credits: 3

Provides an overview of an organization's financial statements, with an emphasis on the interaction between people in management positions and those statements, as well as an examination of the business investment decision-making process. Explores the use of metrics and analytics to measure and improve managerial performance.

Repeat for Credit
N

Typically Offered
Spring

COT 705 - Transformational Leadership for Technology

Credits: 3

Study and application of leadership styles and common leader traits skills and behaviors needed in technology industries and dynamic environments where innovation is a key success factor. Includes application in virtual team environments, and introduces concepts of transformational leadership. This course enables students to build group vision, values, and commitment and to make connections between diverse organizational cultures, leadership styles, and business strategies that enable success in a rapidly changing technology world. Students develop lifelong learning networks and information sources that enable them to continue to grow as leaders.

Repeat for Credit
N

Typically Offered
Fall

COT 706 - Informatics and Technology Management

Credits: 3

Provides theoretical and practical experience in using information technology to support organizational decision-making processes. Provides tools in areas such as statistics, research methods, data mining, and information technology to develop solutions tailored to business problems.

Repeat for Credit
N

Typically Offered
Spring

COT 713 - Advanced Aviation Safety Management

Credits: 3

This course examines the development of safety and provides the student with an understanding of how safety management has become an important part of any company. Discussions emphasize Safety Management Systems and how this blueprint is becoming an integral part of most organizations. Various governmental and corporate programs will be discussed. Students will be exposed to various management tools and techniques to aid in systematically controlling risk and developing a safety culture mind-set.

Repeat for Credit
N

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Spring

COT 715 - Systems Project Management

Credits: 3

This course will steer students through advanced project management that includes both techniques in application portfolio management (APM) and project portfolio management (PPM). Students will construct a Scope Statement, Statement of Work (SoW), and Work Breakdown Structures (WBS). Students practice Project Evaluation and Review Techniques (PERT) and learn the Critical Path Method (CPM). Lastly, they will examine and evaluate the project progression by applying Earned Value Management (EVM).

Repeat for Credit
N

Typically Offered
Fall, Spring

COT 720 - Application of Lean Six Sigma Methods

Credits: 3

Six sigma and lean tools within an enterprise to improve product and process development, production operations, and service activities.

Repeat for Credit
N

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Spring

COT 721 - Reliability Centered Maintenance of Plant Equipment

Credits: 3

This course emphasizes reliability modeling and assessment, reliability-centered maintenance, condition monitoring technologies, and computer tools.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing.

Typically Offered
Spring

COT 731 - Electromagnetics for Unmanned Systems

Credits: 3

Fundamentals of electromagnetic wave phenomena primarily using transmission line theory to study practical applications such as antennas, cables, and waveguides. Includes a treatment of EMI and related issues.

Repeat for Credit
N

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Spring

COT 741 - Aerospace Manufacturing and Materials

Credits: 3

An introduction to aerospace manufacturing and materials processes that focus on understanding manufacturing applied to the production of aerospace vehicles and associated materials.

Repeat for Credit
N

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring

COT 750 - Professional Master of Technology International Experience

Credits: 0-6

Seminar and travel course including faculty-led international field experience focused on Professional Master of Technology students' area of interest, with travel followed by a final project. The course is designed to enhance students' global and cultural awareness while adding knowledge and skill in topical issues. In addition, students will be introduced to and immersed in historical components, both disciplinary and cultural.

Repeat for Credit
Y

Requisites
Prerequisite: Instructor Consent.

Typically Offered
Fall, Spring

COT 770 - Material Properties of Bulk Solids

Credits: 3

Covers material properties related to bulk solids handling such as particle density, bulk density, particle hardness, surface area, particle size and shape and its distribution, porosity and permeability. Additional material property topics include moisture content, temperatures, RH, explosiveness, cohesion and adhesion, angle of internal friction, wall friction, angle of repose, time consolidation, unconfined yield strength, shear strength and more. Sampling and measurement techniques of materials are also included.

Repeat for Credit
N

Requisites
Prerequisite: Industry experience or consent of instructor.

Typically Offered
Fall

COT 771 - Storage and Flow of Bulk Solids

Credits: 3

Covers topics related to storage and flow of bulk solids which include design of hopper , bin, chute, and feeders. A study of solid flow problems such as cohesive arching, ratholing, bridging, and shear tester operational principles is included.

Repeat for Credit
N

Requisites
Prerequisite: Industry experience or consent of instructor.

Typically Offered
Fall

COT 772 - Pneumatic Conveying of Bulk Solids

Credits: 3

Covers topics such as types and components of pneumatic conveying systems and its design principles. Trouble shooting, pipe wear and attrition, dust control are included.

Repeat for Credit
N

Requisites
Prerequisite: Industry experience or consent of instructor.

Typically Offered
Spring

COT 773 - Instrumentation and Safety of Bulk Solids Handling

Credits: 3

Examines various instrumentation used in bulk solids handling operation such as measurement of airflow, pressure, temperature, level and measuring techniques. Different type valves, PLC control and safety are included.

Repeat for Credit
N

Requisites
Prerequisite: Industry experience or consent of instructor.

Typically Offered
Spring

COT 774 - Mechanical Conveying of Bulk Solids

Credits: 3

Covers topics such as types and components of bucket elevator, screw conveyor, drag and belt conveying systems and their design principles. Different aspects of designing each component of these systems with examples and troubleshooting will be discussed.

Repeat for Credit
N

Requisites
Prerequisite: Industry experience or consent of instructor.

Typically Offered
Summer

COT 780 - UAS and High Altitude Platforms (HAPS) for Wireless Communications

Credits: 3

An introductory course to HAPS technology applied in the civilian UAS sector. Covers technologies, communications, and protection of those computer communications from hostile intent. HAPS technology provides wireless narrowband and broadband telecommunications and broadcasting services to users using either aircraft (unmanned (UAS/UAV) or manned) or lighter-than-airships (LTA). Research indicates UAS to be the best alternative. These platforms are reusable and positioned at stratospheric altitudes, from approximately 12.4 miles to 31 miles (20 to 50 km).

Repeat for Credit
N

Requisites
Prerequisite: Graduate Status.

Typically Offered
Spring

COT 781 - Capstone in Systems Design and Dynamics

Credits: 1-6

Students formulate research and execute a project to gain hands-on experience under expert guidance while integrating knowledge to solve complex problems. Students write a convincing proposal for a capstone experience, gather and analyze data, draw conclusions and present results. Teams of first and second-year students may form to work on real-world projects.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

COT 792 - Problems in Cybernetics and Technology

Credits: 0-6

Opportunity for advanced independent study of a specific topic in one of the following areas: aerospace, artificial intelligence, autonomous systems, data science, cyber systems, engineering, space systems, or other advanced technologies. Topics selected jointly by student and the instructor.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

COT 839 - Integrated Systems Thesis

Credits: 2

This course must be taken in three 2 credit hour courses sequentially connected across three semesters. With graduate faculty guidance, students will select and finalize a thesis chair and committee, submit the thesis proposal, develop a research roadmap, incorporate research proposal revisions, execute on approved research, make all necessary revisions to the thesis, produce and defend thesis. The systems thesis framework will focus on a) applied industry research, b) research abstract, and c) publishable research paper.

Repeat for Credit
Y

Requisites
Prerequisite: Approval of Thesis Committee Chair.

Typically Offered
Fall, Spring, Summer

CRIM 261 - Introduction to Criminology and Criminal Justice

Credits: 3

An examination of crime and criminal justice. Considers the nature of crime and the academic discipline of criminology. Explores the major components in the American criminal justice system and how these reflect and are affected by norms and changes in our society. Special emphasis is placed on issues of gender, race/ethnicity, and class within crime and criminal justice.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
5 Social and Behavioral Sciences

K-State 8
Human Diversity within the U.S.

CRIM 301 - Topics in Criminology

Credits: 1-3

Supervised independent and/or interdisciplinary study projects for Criminology students.

Repeat for Credit
Y

Requisites
Prerequisite: CRIM 361 and consent of instructor.

Typically Offered
Fall, Spring

CRIM 362 - Police and Society

Credits: 3

Examines in detail the policing function in society and the role police play in the criminal justice process.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

CRIM 364 - Criminological Perspectives

Credits: 3

Addresses basic concepts, theories, and research methods used in the study of crime, with an emphasis on critical perspectives on crime as a social phenomenon. The course provides an overview of the nature and extent of major categories of crime as well as the integration of current issues dealing with crime.

Repeat for Credit
N

Requisites
Prerequisite: CRIM 261

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Human Diversity within the U.S.

CRIM 367 - Real World Criminology

Credits: 1

Prepares students for careers in Criminology, including learning more about potential internship placements, occupation options in the field of criminology, graduate school, and job market preparation.

Note
Required for all Criminology majors.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

CRIM 454 - Criminal Law and Society

Credits: 3

Examines the impact of the criminal law on US society, paying special attention to the state's use and justification of violence. Concerns the law as a source of violence and inequality in US society; students will demonstrate critical thinking and reasoning, analyzing the construction of laws and interpreting implications for various groups and segments of society.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

CRIM 460 - Youth and Crime

Credits: 3

Nature, extent, and causes of delinquency; characteristics of delinquents; means of prevention and treatment.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Social Sciences

CRIM 462 - The War on Drugs

Credits: 3

This course charts the history of the US war on drugs, placing it within the context of the war on terror, mass imprisonment and the problem of police violence. Studies how policies of law and crime impact various groups and social positions within the US. Compares US policies to others within a global context.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

CRIM 463 - Gangs in American Society

Credits: 3

Covers the historical development and current status of gangs in America. Focus on gang types/forms, criminal activities and sociological impact on communities. Also examines gang control mechanisms as well as classic and modern research conducted about gangs.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Human Diversity within the U.S.
Social Sciences

CRIM 470 - The Criminal Justice System and Family Violence

Credits: 3

A critical examination of the incidence and prevalence of family violence in society, emphasizing how the criminal justice system responds to this social problem.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

CRIM 477 - True Crime

Credits: 3

Critically evaulates the public fascination with violent crime entertainment.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Social Sciences

CRIM 480 - Prisons and Punishment

Credits: 3

The historical development and current status of the correctional system. Major institutional components include jails, prisons, probation, parolee, and other forms of community corrections. Modern issues such as offender and victim rights and electronic monitoring are also covered.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

CRIM 482 - Criminal Procedure and Investigations

Credits: 3

Examines the academic and applied dimensions of criminal investigations and criminal procedure. The course is designed for students interested in learning about the processes and skills involved in evidence gathering, interviews and interrogations, case processing, and preparing cases for court for a variety of criminal offenses.

Repeat for Credit
N

Requisites
Prerequisite: CRIM 361

Typically Offered
Fall, Spring

K-State 8
Social Sciences

CRIM 500 - Contemporary Issues in Criminology

Credits: 1-3

Analysis of a selected criminological topic of contemporary interest. Topics vary from semester to semester.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CRIM 550 - Cybercrime, Security, and Society

Credits: 3

Critically examines the social and cultural issues surrounding technology, crime, deviance, and crime control, including hackers, digital activists, online fraudsters, cybersecurity agents, and other actors and subcultures from sociological and criminological perspectives.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

CRIM 552 - Sex Crimes & Society

Credits: 3

Provides critical analysis of background, laws, and practices regarding sex crimes in the US. Includes diverse reference points relative to perpetrators and victims/survivors of sex crimes; legal practices and challenges; and responses related to criminal justice and social justice perspectives.

Note
Intended for Criminology majors and related fields including pre-law, pre-med, social science, sociology, social work, anthropology, psychology, leadership, and health and human sciences

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Social Sciences

CRIM 562 - Study of Serial Murder

Credits: 3

The course critically examines the social construction of serial murder as a phenomenon that has long existed but only recently has been polarized as a concern of the criminal justice system and the public in general. The objective of the course is to synthesize historical and social scientific analysis of serial murder, assess public and media debates centered on both offenders and victims, and evaluate the portrayal of serial murder in contemporary literature and film.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

CRIM 568 - Criminology Internship

Credits: 6-9

Involves an internship with an approved organization related to criminology or criminal justice. Includes practical experience, observational research, and a final report. Students will demonstrate an understanding of how social science methods and principles affect policies and practices in criminal justice and related organizations.

Repeat for Credit
Y

Requisites
Prerequisite: CRIM 367

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

CRIM 569 - Field Experience in Criminology

Credits: 1-3

Integrates field experience and everyday practices with relevant bodies of sociological and criminological theory and research. Students will develop analytical and interpretive skills to understand implications of criminal law and practices through direct field experience.

Repeat for Credit
Y

Requisites
Prerequisite: CRIM 367 Corequisite: Must be taken concurrent with CRIM 568.

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

CRIM 572 - The Death Penalty

Credits: 3

Studies data, public opinion, execution patterns and methods, and debates regarding capital punishment as public policy in the U.S. from early history to 21st century. Examines selected cases and issues such as general deterrence, methods of execution, and constitutional challenges.

Repeat for Credit
N

Typically Offered
Summer

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

CRIM 582 - Criminal Minds

Credits: 3

Examines interaction between social forces and physical experiences, such as cognitive impairment and/or abuse. Critically reviews history of criminology and biological theories of crime; explores how remnants of these feature in current explanations of crime.

Repeat for Credit
N

Typically Offered
Intersession

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

CRIM 592 - Anatomy of Mass Murder

Credits: 3

Examines a specific kind of murder, killing of four or more people in a single incident. Examines the killers' pathways, the weapons, and especially the social context of mass murder.

Repeat for Credit
N

Requisites
Recommended prerequisite: Any social science course.

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

CRIM 599 - Senior Thesis in Criminology

Credits: 3

Independent research in criminology. Students conduct original research and produce a senior thesis in criminology.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 423, CRIM 364 and instructor consent

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

CRIM 665 - Women and Crime

Credits: 3

Nature and extent of criminal offending among women and women offenders' interactions with legal and criminal justice systems; women's victimization, including rape and intimate violence; women workers in the criminal justice system, specifically in law, policing, and prison work.

Repeat for Credit
N

Requisites
Prerequisite: CRIM 261

Typically Offered
Spring

CS 819 - Veterinary Medicine in a Foreign Context

Credits: 1

Lecture and discussion-based course preparing students to enroll in VCS 821. Students will investigate agricultural and veterinary medicine in a specific country.

Repeat for Credit
Y

Requisites
Prerequisite: Commitment to enroll in CS 821 International Veterinary Study Tours and Graduate Student in College of Veterinary Medicine. Additional students admitted with discretion of the faculty member leading CS 821.

Typically Offered
Spring

CS 820 - Topics in Global Veterinary Medicine

Credits: 1

An overview of the role of veterinarians around the world. Topics include international uses and attitudes about animals, problems the world faces pertaining to livestock production, and social tensions. One hour lecture each week.

Note
One hour lecture each week.

Repeat for Credit
N

Requisites
Prerequisite: 1st or 2nd year standing in the College of Veterinary Medicine, or enrolled as a graduate student with instructor permission.

Typically Offered
Spring

CS 821 - International Vet Study Tours

Credits: 1

Faculty-led trip for students to explore veterinary medicine in a foreign country. Prior to travel, students will learn about the country through lectures, research, presentations. During the trip they will interact with nationals in the veterinary profession and experience the culture.

Repeat for Credit
Y

Requisites
Prerequisite: Successful completion of CS 819 in the semester immediately preceding. Enrolled as a 1st-3rd year or grad student in the College of Vet Med. Additional students
admitted with discretion of faculty leading the tour.

Typically Offered
Summer

CS 822 - Introduction to Sustainable Beef Systems

Credits: 1

This course provides the fundamentals of assessing sustainability in beef production systems through evaluation of aspects of sustainability pillars, people, planet and profit, in each sector of the beef value chain. The course focuses on principles of sustainable food systems, beef cattle production practices, systems thinking, and impacts of food choices.

Repeat for Credit
N

Requisites
Prerequisite: Graduate School standing.

Typically Offered
Fall

Cross-listed
VCS 822

CS 823 - Advanced Diagnostic Imaging - Small Animal

Credits: 1

Case presentation/discussion of diagnostic imaging techniques used in small animal veterinary practice, including radiography, ultrasonography, nuclear imaging, magnetic resonance imaging, and computer tomography. Clinical cases will demonstrate imaging methods and technology used in the various body systems, with an emphasis on interpretation and clinical diagnosis. Students may re-enroll for a maximum of three credits.

Repeat for Credit
N

Requisites
Prerequisite: DVM degree.

Typically Offered
Fall

CS 824 - Topics in Small Animal Internal Medicine I

Credits: 1

Various topics in small animal internal medicine will be presented. In-depth discussion of pathophysiology and recent advances in diagnostics and therapeutics. Different topis will be covered in various years at instructor's discretion.

Note
Course may be repeated with approval of instructor.

Repeat for Credit
Y

Requisites
Prerequisite: DVM degree.

Typically Offered
Fall

CS 825 - Topics in Small Animal Internal Medicine II

Credits: 1

Various topics in small animal internal medicine will be presented. One topic will be covered in a one-hour conference weekly. In-depth discussion of pathophysiology and recent advances in diagnostics and therapeutics.

Note
Course may be repeated with approval of instructor.

Repeat for Credit
Y

Requisites
Prerequisite: DVM degree.

Typically Offered
Spring

CS 826 - Small Animal Endoscopy

Credits: 1

Introduction to the fundamentals of small animal (canine and feline) endoscopy, including respiratory and gastrointestinal endoscopy, laparoscopy and anthroscopy. Thirteen lectures with 2 laboratories will be offered.

Repeat for Credit
N

Requisites
Prerequisite: DVM degree and approval from course coordinator.

Typically Offered
Fall

CS 827 - Advanced Topics in Small Animal Surgery

Credits: 0-18

Current and foundational information on techniques, theory, and management in small animal surgery.

Repeat for Credit
Y

Requisites
Prerequisite: DVM degree or approval on instructor.

Typically Offered
Fall, Spring

CS 828 - Wound Management and Reconstruction

Credits: 1

Didactic lectures on the physiology of wound healing, advanced reconstructive techniques, and wound treatment products and technologies.

Repeat for Credit
N

Requisites
Prerequisite: Graduate Student in the College of Veterinary Medicine

Typically Offered
Fall or Spring

CS 829 - Applied Production Medicine

Credits: 1

Advanced training in agricultural production medicine. Emphasis on answering production medicine problems through the appropriate design and interpretation of research models. Course is discussion-based and facilitated by a team of faculty members. Students will be expected to participate in weekly topic discussions.

Repeat for Credit
N

Requisites
Prerequisite: Graduate student.

Typically Offered
Fall, Spring

CS 830 - Design and Interpretation of Clinical Trials

Credits: 3

Designing appropriate experimental studies to answer research questions that can be addressed in clinical and field settings, and analyzing, interpreting and communicating the results in a suitable manner.

Repeat for Credit
N

Typically Offered
Spring

CS 831 - Veterinary Ophthalmic Surgery Techniques

Credits: 3

Lectures will cover ophthalmic instruments and proper surgical techniques for commonly performed ophthalmic surgeries. Cadavers will be available to practice adnexal and corneal ophthalmic surgeries.

Repeat for Credit
N

Requisites
Prerequisite: Ophthalmology resident at Kansas State University Veterinary Health Center.

Typically Offered
Spring

CS 832 - Antimicrobial Resistance in Bacteria: A One Health Perspective

Credits: 1

This course addresses the concept of One Health which integrates the knowledge of the biological elements necessary for the evolution of antimicrobial resistance (AMR) in bacteria and other factors (animals, humans, environments, socioeconomic features, and behavioral changes) involved in its emergence and dissemination.

Repeat for Credit
N

Requisites
Graduate Student Standing

Typically Offered
Fall

Cross-listed
VCS 832 Antimicrobial Resistance in Bacteria: A One Health Perspective

CS 833 - Nephrology/Urology

Credits: 1

Advanced studies about small animal nephrology/urology (various topics: Pathophysiology, clinical signs, differential diagnoses, diagnostic approach, and treatment consideration).

Repeat for Credit
N

Requisites
Prerequisite: DVM Degree and Graduate Student.

Typically Offered
Spring

CS 834 - Surgical Pathophysiology I – Hematology, Anesthesia and Infection

Credits: 1

Designed to expose small animal surgery residents to a

standard curriculum set out by the American College of Veterinary Surgeons in preparation for the Phase I Surgery Qualification examination. Assigned textbook reading covers various topics: Hematology, Anesthesia and Infection. Meet for one hour weekly with faculty to guide the resident's self-study, answer questions, and correct deficiencies.

Repeat for Credit
N

Requisites
Prerequisite: Small animal surgery resident at Kansas State University Veterinary Health Center and Graduate Student.

Typically Offered
Fall, Spring, Summer

CS 835 - Surgical Pathophysiology II – Analgesia and Wound Management

Credits: 1

Designed to expose small animal surgery residents to a standard curriculum set out by the American College of Veterinary Surgeons in preparation for the Phase I Surgery Qualification examination. Assigned textbook reading covers various topics: Analgesia and Wound Management. Meet for one hour weekly, with faculty to guide the resident's self-study, answer questions, and correct deficiencies.

Repeat for Credit
N

Requisites
Prerequisite: Small animal surgery resident at Kansas State University Veterinary Health Center and Graduate Student.

Typically Offered
Fall, Spring, Summer

CS 836 - Surgical Pathophysiology III – Soft Tissue Surgery

Credits: 1

Designed to expose small animal surgery residents to a standard curriculum set out by the American College of Veterinary Surgeons in preparation for the Phase I Surgery Qualification examination. Assigned textbook reading covers Soft Tissue Surgery topics. Meet for one hour weekly, with faculty to guide the resident's self-study, answer questions, and correct deficiencies.

Repeat for Credit
N

Requisites
Prerequisite: Small animal surgery resident at Kansas State University Veterinary Health Center and Graduate Student.

Typically Offered
Fall, Spring, Summer

CS 837 - Surgical Pathophysiology IV – Orthopedic and Neurosurgery

Credits: 1

Designed to expose small animal surgery residents to a standard curriculum set out by the American College of Veterinary Surgeons in preparation for the Phase I Surgery Qualification examination. Assigned textbook reading covers various topics: Orthopedic and Neurosurgery. Meet for one hour weekly, with faculty to guide the resident's self-study, answer questions, and correct deficiencies.

Repeat for Credit
N

Requisites
Prerequisite: Small animal surgery resident at Kansas State University Veterinary Health Center and Graduate Student.

Typically Offered
Fall, Spring, Summer

CS 838 - Advanced Small Animal Endocrinology

Credits: 2

Advanced topics in small animal endocrinology. Emphasis on comparative aspects of endocrine gland disease and its clinical manifestations in dogs and cats. Primary literature, review articles, and advanced texts will be the principle sources of information.

Repeat for Credit
N

Requisites
Prerequisite: DVM degree.

Typically Offered
Spring

CS 840 - Communication with the Agricultural Worker

Credits: 2

An elective course focused on improving communications between veterinarians and animal caretakers in production agriculture and equine industries. The course will use face to face discussions and online seminars/modules to teach communications skills with a focus on common terminology and vocabulary necessary for effective communication. Course material will involve audio-visual methods using immersion philosophy.

Repeat for Credit
N

Requisites
Prerequisite: 2nd or 3rd year standing in the College of Veterinary Medicine or enrolled as a graduate student.

Typically Offered
Fall, Spring

CS 841 - Advanced Clinical Gastroenterology

Credits: 1

Advanced study of gastrointestinal structure and function with discussions of material presented applicable to the general ACVIM board examinations. Assigned journal articles will cover literature references from sources on the ACVIM reading list, as well as general physiology taken from human literature.

Repeat for Credit
N

Requisites
Prerequisite: DVM degree and Kansas State University Graduate Student Standing.

Typically Offered
Fall, Spring

CS 842 - Advanced Clinical Hepatology

Credits: 1

Advanced study of hepatology with discussions of material presented applicable to the general ACVIM board examinations Assigned journal articles will cover literature references from sources on the ACVIM reading list, as well as general physiology taken from human literature.

Repeat for Credit
N

Requisites
Prerequisite: DVM degree and Kansas State University Graduate Student Standing

Typically Offered
Fall, Spring

CS 850 - Research in Medicine

Credits: 1-6

An attempted solution of some of the medical and parasitological problems confronting the practitioner of veterinary medicine.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of staff.

Typically Offered
Fall, Spring, Summer

CS 851 - Breeding Diseases

Credits: 1-5

Advanced studies of the breeding diseases of domestic animals.

Repeat for Credit
N

Requisites
Prerequisite: D.V.M. degree or consent of staff.

Typically Offered
Fall, Spring, Summer

CS 852 - Interpretation of Radiology Studies of Body Systems

Credits: 3

Advanced discussions of radiologic interpretation, indications and interpretation of alternate imaging procedures (MRI, CT, nuclear medicine, ultrasound).

Repeat for Credit
N

Requisites
Prerequisite: DVM degree or consent of department head prior to registration.

Typically Offered
Fall-Odd Years

CS 854 - Systemic Medicine I

Credits: 1-3

Study of the medical aspects of diseases of the urinary, nervous, and integumentary systems and special senses.

Repeat for Credit
N

Requisites
Prerequisite: DVM degree or consent of department head.

Typically Offered
Fall, Spring, Summer

CS 855 - Systemic Medicine II

Credits: 1-3

Study of the medical aspects of diseases of the cardiovascular, respiratory, musculoskeletal and endocrine systems.

Repeat for Credit
N

Requisites
Prerequisite: DVM degree or consent of department head.

Typically Offered
Fall

CS 856 - Large Animal Surgery Current Literature

Credits: 1

In the style of a journal club, participants will present current literature related to equine and farm animal surgery. The journal articles focus on literature from the American College of Veterinary Surgeons reading list (EVJ, EVE, JAVMA, VRU, VetSurg) within the last 5 years as well as foundational literature. Clinical case scenarios will also be used to assess student' knowledge. The goal of the course is to enhance students' knowledge of the current large animal orthopedic and soft tissue literature.

Repeat for Credit
N

Requisites
DVM and Large Animal Resident or Intern

Typically Offered
Fall

CS 857 - Clinical Interpretation of Equine Diagnostic Images

Credits: 1

Graduate veterinary students will meet one hour weekly to review clinical equine images and review pertinent literature.

Repeat for Credit
N

Requisites
Prerequisite: Graduate student in the College of Veterinary Medicine.

Typically Offered
Fall, Spring

CS 858 - Orthopedic Surgery

Credits: 4

Fundamentals, theory, and practice concerning genetic, metabolic, infectious, neoplastic, and traumatic diseases of bones and joints.

Repeat for Credit
N

Requisites
Prerequisite: DVM degree or consent of department head.

Typically Offered
Spring-Even Years

CS 859 - Clinical Sciences Seminar

Credits: 1

A seminar for all house officers and all Clinical Sciences graduate students.

Note
One hour seminar presentation each week. May re-enroll for total maximum of two credits.

Repeat for Credit
Y

Typically Offered
Fall, Spring

CS 862 - Theriogenology

Credits: 3

Consideration of prevention, diagnosis, and treatment of disease, and maintenance of health and productivity of the genital tract of domestic animals. Three hours of lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: Third-year standing in College of Veterinary Medicine or graduate student.

Typically Offered
Fall

CS 868 - Artificial Intelligence in Veterinary Medicine

Credits: 1

This elective course explores the impact of artificial intelligence on the field of medicine, with a focus on veterinary applications. Students will learn about the fundamentals of AI, machine learning, and data science, and how these technologies are used to improve diagnostics, treatment planning, patient monitoring, and overall patient care. The course will also address ethical considerations, regulatory frameworks, and the future of AI in healthcare. Through lectures, case studies, and hands-on projects, students will gain a comprehensive understanding of AI's role in advancing medical and veterinary practices.

Repeat for Credit
N

Requisites
Graduate Student in the College of Veterinary Medicine.

Typically Offered
Fall, Spring

CS 870 - Diagnostic Methods in Feedlot Management

Credits: 3

Practical experience in feedlot operation and bovine necropsy diagnosis consisting of 40 hours in bovine necropsy and 320 hours of an on-location practicum in a cattle feedlot.

Repeat for Credit
N

Requisites
Prerequisite: Successful completion of the first-year professional curriculum in the College of Veterinary Medicine with a cumulative GPA of 3.0 or better and no grade below a C.

Typically Offered
Summer

CS 877 - Clinical Nutrition

Credits: 2

A focus on practical aspects of nutrition as it relates to performance, health and animal well-being of food-producing animals and, programs designed for health and well-being of small animals including exotic animals. Nutritional aspects of the mechanisms of health and disease are taught primarily at the individual and population level with some molecular and cellular aspects included. Designed for all students to be able to properly nourish animals in their care during their career.

Repeat for Credit
N

Requisites
Prerequisite: Graduate student.

Typically Offered
Spring

Cross-listed
ASI 886 and AP 886

CS 890 - Clinical Science Problems

Credits: 1-3

Advanced instruction in research topics and technologies, emphasizing various clinical disciplines.

Repeat for Credit
Y

Requisites
Prerequisite: D.V.M. Degree. or dual degree students in the College of Veterinary Medicine

Typically Offered
Fall, Spring, Summer

CS 894 - Antimicrobial Resistance in Bacteria: Impact on Animal and Public Health

Credits: 3

The course addresses issues of antimicrobial resistance (AMR) in bacteria in relation to antimicrobial use through an interdisciplinary approach that integrates animal, human and environmental health.

Repeat for Credit
N

Requisites
Pre-requisite: Graduate Student

Typically Offered
Spring

CS 895 - Research Methods

Credits: 1

Discussion of research design, grantsmanship, practical statistics, manuscript preparation, and ethics.

Repeat for Credit
N

Requisites
Prerequisite: DVM degree or consent of department head.

Typically Offered
Spring-Even Years

CS 896 - Advanced Topics in Clinical Ophthalmology I

Credits: 2

Designed to expose comparative ophthalmology residents to the source material associated with the ABVO certifying examination. Assigned textbook reading covers various topics from the major required textbook reading list. Meet with faculty to guide the resident's self-study, answer questions, and correct deficiencies.

Repeat for Credit
Y

Requisites
Prerequisite : Comparative Ophthalmology Resident at Kansas State University Veterinary Health Center and Graduate Student

Typically Offered
Fall, Spring, Summer

CS 897 - Advanced Topics in Clinical Ophthalmology II

Credits: 2

Designed to familiarize comparative ophthalmology residents with the basic format of the ABVO certifying examination. The course will include written and image recognition examinations that collectively assess the students' comprehensive knowledge of clinical ophthalmology, including medical and surgical case management. Basic vision science concepts associated with embryology, anatomy, physiology, and optics will also be reviewed. Meet to deliver mock examinations, including time to review the content, answer questions, and correct deficiencies.

Repeat for Credit
Y

Requisites
Prerequisite : Comparative Ophthalmology Resident at Kansas State University Veterinary Health Center and Graduate Student

Typically Offered
Fall, Spring, Summer

CS 898 - MS Report in Clinical Sciences

Credits: 1-2

A written report of either laboratory-based research, field-based research, or a review paper on a topic in the major field.

Repeat for Credit
N

Requisites
Prerequisite: Consent of the major professor

Typically Offered
Fall, Spring, Summer

CS 899 - Research in Clinical Sciences

Credits: 1-6

Individual research in any of the fields of Clinical Sciences.

Note
This work may form the basis for either the M.S. Thesis or the M.S. Report.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall, Spring, Summer

CSD 243 - Communication Sciences and Disorders

Credits: 3

A survey of normal communication processes and communication disorders and an introduction to the fields of speech pathology and audiology that are responsible for the clinical management of these disorders.

Repeat for Credit
N

Typically Offered
Fall, Spring

CSD 347 - Introduction to Phonetics

Credits: 3

Basic information about speech sounds and their use in human languages, including physiological and perceptual characteristics of phonetics. Phonetic transcription of Standard American English will be emphasized.

Repeat for Credit
N

Requisites
Prerequisite: CSD major, completion of 57 credit hours, 3.0 GPA.
Corequisite: CSD 442.

Typically Offered
Fall

K-State 8
Human Diversity within the U.S.

CSD 360 - Structure and Function of the Speech Mechanism

Credits: 4

Anatomy of the structures involved in speech production. The course includes histology of the larynx and an overview of speech physiology.

Repeat for Credit
N

Requisites
Prerequisite: CSD major, completion of 57 credit hours, 3.0 GPA.

Typically Offered
Spring

CSD 361 - Hearing Science

Credits: 3

An introduction to hearing science concepts. Areas of focus include anatomy and physiology of the hearing mechanism, quantification of sound, sound generation, and sound transmission. Information on the role of the auditory

system in the encoding and processing of simple and complex signals is also presented.

Repeat for Credit
N

Requisites
Prerequisite: CSD major, completion of 57 credit hours, 3.0 GPA

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

CSD 442 - Developmental Psycholinguistics

Credits: 3

Review of research and theory of early development of language comprehension and production, involving vocalization, phonology, morphology, syntax, semantics, and pragmatics. Includes discussion of the relationship between cognition and language, as well as other variables influencing language acquisition.

Repeat for Credit
N

Requisites
Prerequisite: CSD major; completion of 57 credit hours, 3.0 GPA.

Typically Offered
Fall

CSD 443 - Language Assessment and Intervention I

Credits: 3

The characteristics and nature of developmental language disorders in preschool-aged children, as well as general principles of language assessment and intervention are presented. Specific language assessment and intervention procedures for individuals between birth and five years old are reviewed.

Repeat for Credit
N

Requisites
Prerequisite: CSD major, completion of 57 credit hours and an overall 3.0 GPA, including both K-State and transfer course work.

Typically Offered
Fall

CSD 446 - Speech Sound Disorders

Credits: 4

Theory, research, and principles of normal/abnormal phonetic and phonologic development, transcription of speech sound disorders assessment of speech sound disorders, and intervention for speech sound disorders.

Note
Three hours lecture and two hours lab.

Repeat for Credit
N

Requisites
Prerequisite: CSD major, completion of 57 credit hours and an overall 3.0 GPA, including both K-State and transfer course work.

Typically Offered
Spring

K-State 8
Social Sciences

CSD 515 - Laboratory in Acoustic Phonetics

Credits: 1

The study of speech perception and production through acoustic analysis. Laboratory experience in the use of computer-based speech analysis systems.

Repeat for Credit
N

Requisites
Prerequisite: CSD 347 and senior standing.

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

CSD 549 - Clinical Procedures in Communication Disorders

Credits: 3

Orientation to clinical practicum. Opportunities for clinical observation of speech, language, and hearing evaluation and treatment. Study of diagnostic tools, treatment materials, equipment, and clincial procedures.

Repeat for Credit
N

Requisites
Prerequisite: Senior, CSD major, CSD 443, CSD 446.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

CSD 560 - Clinical Research in Communication Sciences and Disorders

Credits: 3

Logic and methods of clinical research with emphasis on those most frequently used in speech-language pathology and audiology. Experience reading, planning, and evaluating research.

Repeat for Credit
N

Requisites
Prerequisite: STAT 225 or equivalent and CSD 446.
Recommended Corequisite: CSD 443

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

CSD 567 - Hearing Assessment and Intervention

Credits: 3

An introduction to audiology concepts and basic audiology testing procedures. Areas covered include disorders of the auditory system, testing procedures, and audiometric interpretation.

Repeat for Credit
N

Requisites
Prerequisite: CSD major, completion of 57 credit hours, 3.0 GPA.

Typically Offered
Spring

CSD 570 - Hearing and Communication

Credits: 2

The study of habilitation and rehabilitation techniques for individuals diagnosed with a hearing disorder. Specific areas of interest include hearing evaluation techniques, speech and language development for the hearing impaired, hearing aid amplification, cochlear implants, and central auditory processing.

Repeat for Credit
N

Requisites
Prerequisite: CSD 567.

Typically Offered
Spring

CSD 580 - Neurological Basis of Communication and Swallowing Disorders

Credits: 3

Introduction to basic neuroanatomy and physiology as it relates to processes of human communication and swallowing. Learn about the nervous system and how health conditions that affect neurological function contribute to activity limitations and participation restrictions. Provides foundational knowledge for students in communication sciences and disorders and health majors about individuals who have neurologically-based communication and swallowing disorders.

Repeat for Credit
N

Requisites
Prerequisite: CSD 360 or instructor permission for a non-

CSD major to substitute a comparable anatomy course.

Typically Offered
Spring

CSD 591 - Undergraduate Topics in Communication Sciences and Disorders

Credits: 0-3

Review of current topics in speech-language pathology and/or audiology.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

CSD 701 - Research Experience in Communication Sciences and Disorders

Credits: 1

The course furthers understanding and application of research principles in communication sciences and disorders. Students participate in scholarly activities that apply to clinical populations in speech-language pathology.

Repeat for Credit
N

Requisites
Prerequisite: CSD 560

Typically Offered
Fall, Spring

CSD 705 - Practicum in Speech-Language Pathology

Credits: 1-3

Supervised practice in the use of the methods and materials of speech-language pathology.

Repeat for Credit
Y

Requisites
Prerequisite: CSD 549.

Typically Offered
Fall, Spring, Summer

CSD 706 - Practicum in Audiology

Credits: 1-3

Supervised practice in the use of equipment, materials, and methods of audiology.

Repeat for Credit
Y

Requisites
Prerequisite: CSD 567.

Typically Offered
Fall, Spring, Summer

CSD 725 - Augmentative and Alternative Communication

Credits: 2

This course examines the area of augmentative and alternative communication (AAC) for people across the lifespan. The etiologies and communicative needs of current and prospective users of AAC, as well as procedures for evaluation are addressed. The course includes strategies and procedures for implementing AAC systems for people who are permanently or temporarily severely communicatively impaired.

Repeat for Credit
N

Requisites
Prerequisite: CSD 360 and CSD 549.

Typically Offered
Summer

CSD 741 - Stuttering

Credits: 3

Research and theory concerning etiology, characteristics, assessment, and treatment of individuals with stuttering and related conditions.

Repeat for Credit
N

Requisites
Prerequisite: CSD 560.

Typically Offered
Fall

CSD 742 - Language Assessment and Intervention II

Credits: 3

Theory and research concerning language disorders in school-aged children are presented. Specific language assessment and intervention methodologies for this population are reviewed. Dialectal and bilingual considerations for assessment and intervention are addressed.

Repeat for Credit
N

Requisites
Prerequisite: CSD 443.

Typically Offered
Spring

CSD 743 - Communication Impairments in Autism Spectrum Disorders

Credits: 2

This course provides an overview of Autism Spectrum Disorders (ASD), including characteristics, diagnosis, and etiologies. Interventions used by speech-language pathologists for enhancing the communication of individuals with ASD across the lifespan will be presented, with a focus on using evidence-based practice guidelines to determine programs of treatment. Current developments and research findings related to assessment and intervention will be discussed.

Repeat for Credit
N

Requisites
Prerequisite: CSD 443.

Typically Offered
Summer

CSD 745 - Motor Speech Disorders

Credits: 3

Examines motor speech disorders that result from neurologic disease, injury, and developmental conditions. Evidence-based practices concerning evaluation and planning of intervention are addressed for dysarthria and apraxia of speech.

Repeat for Credit
N

Requisites
Prerequisite: CSD 580

Typically Offered
Fall

CSD 748 - Cleft Palate

Credits: 1

An overview of communicative disorders related to cleft palate and other structurally-based conditions affecting velopharyngeal function. Research and practical knowledge related to the characteristics, assessment, and treatment of these communicative problems are addressed.

Repeat for Credit
N

Requisites
Prerequisite: CSD 360 and CSD 446.

Typically Offered
Spring

CSD 750 - Voice Disorders

Credits: 3

The etiologies and characteristics of voice disorders, as well as general principles of assessment, prevention, and treatment of these disorders, are presented. The role of the speech-language pathologist in rehabilitation planning following treatment for laryngeal cancer is also addressed.

Repeat for Credit
N

Requisites
Prerequisite: CSD 360.

Typically Offered
Fall

CSD 780 - Instrumental Measurement for Clinical Application

Credits: 2

This course addresses instrumentation and measurement procedures for clinical application. Emphasis is placed on measurement tools that relate to subsystems of speaking.

Repeat for Credit
N

Requisites
Prerequisite: CSD 750 or CSD 745

Typically Offered
Spring

CSD 841 - Acquired Language and Cognitive Disorders

Credits: 4

Study of acquired language and cognitive-communicative disorders in adults. Content addresses research and applied knowledge concerning etiologies, evaluation, and treatment of aphasia and communication deficits that result from right hemisphere damage, dementia, and traumatic brain injury.

Repeat for Credit
Y

Requisites
Prerequisite: CSD 580

Typically Offered
Spring

CSD 844 - Dysphagia

Credits: 4

Study of normal and abnormal swallowing in children and adults. Procedures for assessment, diagnosis, and intervention are explored.

Repeat for Credit
Y

Requisites
Prerequisite or Corequisite: CSD 745

Typically Offered
Fall

CSD 847 - Externship in Speech-Language Pathology

Credits: 3-12

Clinical practicum in off-campus sites, including supervised experience in evaluation and treatment of children and adults with communication disorders.

Repeat for Credit
Y

Requisites
Prerequisite: CSD 705.

Typically Offered
Fall, Spring, Summer

CSD 849 - Graduate Topics in Communication Sciences and Disorders

Credits: 1-3

Critical review of recent research related to measurement and modification of speech, hearing, or language deficits.

Repeat for Credit
Y

Requisites
Prerequisite: CSD 560, graduate standing, and consent of the instructor.

Typically Offered
Other

CSD 851 - Professional Issues in Speech-Language Pathology

Credits: 3

An overview of current professional issues in speech-language pathology are addressed. Primary topics include professional and ethical practices, scope of practice and service delivery, interprofessional education and

interprofessional practice, diversity and cultural responsiveness, preparation for employment, and credentialing. Because this is a capstone course, the student must be within three semesters/terms of the graduate program.

Repeat for Credit
Y

Requisites
Prerequisite: CSD 705 and consent of instructor.

Typically Offered
Spring

CSD 897 - Graduate Seminar in Communication Sciences and Disorders

Credits: 1-3

Advanced course providing critical analysis of recent theory and research in a designated topic area.

Repeat for Credit
Y

Requisites
Prerequisite: CSD 560 and consent of the instructor.

Typically Offered
Summer

CSD 899 - MS Research in Communication Sciences and Disorders

Credits: 1-8

Individual research problems in communication sciences and disorders which may form the basis for the master's thesis or report.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CYBR 010 - Cyber Systems Seminar

Credits: 0

CSDD Faculty and Senior-standing students will lead discussions and activities covering topics such as creative problem solving; empathy, ideation, prototyping, and testing as means to innovate discovery in diverse fields.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

CYBR 103 - Computing Principles

Credits: 3

Fundamental concepts of computer science and computational thinking. Topics include the use of abstraction, problem analysis, data representation, algorithms and programming. Students learn to use creative processes to develop computational artifacts. Student activities are designed to appeal to a broad audience, including those underrepresented in computing.

Repeat for Credit
N

Requisites
Prerequisite: Experience with PC software.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

CYBR 137 - Principles of Interactive Digital Storytelling

Credits: 3

This course explores the frontier of narrative innovation and uncovers the unique qualities and capabilities of immersive technologies such as virtual, augmented, and mixed reality in crafting captivating stories. Students will explore theoretical and practical dimensions of designing immersive narratives, learning how to leverage sensory engagement and spatial storytelling techniques to create compelling virtual environments. Students will have a well-rounded understanding of the principles underlying interactive and immersive storytelling and will be equipped with the skills to create profound and engaging narratives

within these revolutionary digital landscapes.

Repeat for Credit
N

Typically Offered
Fall or Spring

CYBR 163 - Fundamentals of Design Thinking

Credits: 3

Students learn how to use the design thinking process to solve problems creatively, collaboratively and empathetically. Additionally, the course equips students with the knowledge of the processes and techniques used to solve problems and innovate in the workplace.

Repeat for Credit
N

Typically Offered
Fall, Spring

CYBR 180 - Introduction to Database Systems

Credits: 3

An introduction to properties and design principles of relational databases. Topics include database terms, E-R Modeling, relational table design and normalization, the relational algebra, Structured Query Language, and the database life cycle. Laboratory work includes the design and implementation of a database.

Repeat for Credit
N

Requisites
Prerequisite: Experience with PC software.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

CYBR 210 - Interactive Media Development

Credits: 3

In this course, students will learn to create visually rich interactive experiences. It is a course in programming graphics and media, but it is also a course on the relationship between ideas and code. Students will explore topics in math and physics by building programs that simulate and visualize processes in the natural world. Assignments will include major programming projects, such as building a virtual world inhabited by digital characters that display observable behaviors.

Repeat for Credit
N

Typically Offered
Fall or Spring

CYBR 247 - Programming I

Credits: 3

Programming foundations and development of simple video games using a game engine. Topics include programming fundamentals, syntax and semantics, expressions, control statements, object-oriented programming, classes, functions, streams, game engine basics, and visual scripting concepts.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 103.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

CYBR 250 - Hardware and Network Fundamentals

Credits: 3

An introduction to computer systems with an emphasis on the internal workings of computer and network hardware. Hardware topics include data representation in binary, digital logic and the Von-Neumann architecture. Network topics include local-area and wide-area networks, topology, protocols and transmission media. Student activities include proper hardware configurations for various

applications.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Experience with PC software.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Historical Perspectives

CYBR 280 - Applied Mathematics for Cyber Systems

Credits: 3

This course builds on the foundations of algebra and trigonometry with a focus on mathematical topics used in computer graphics programming. Topics include digital data storage, numerical accuracy and stability, mathematical notation, formal logic, discrete math, sets, implementation of computational algorithms, proof theory, probability and statistics, numerical methods, an introduction to linear algebra with an emphasis on geometric transformations and the kinematics of serial-link systems, difference equations and Markov matrices, and an introduction to projective geometry.

Repeat for Credit
N

Requisites
Prerequisites: MATH 100, MATH 150, CYBR 103

Typically Offered
Fall or Spring

CYBR 301 - Immersive COOP Studio I

Credits: 3

Cooperative education is a work experience designed to supplement the educational process. Students will engage in on-campus activities designated as cooperative education, including relevant industrial experience, entrepreneurial activities, as well as faculty-supervised research and innovation opportunities.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 210

Typically Offered
Summer

CYBR 310 - 3D Animation and Asset Production for XR

Credits: 3

This course provides an overview of 3D game asset production. Basic ideas learned within the first asset production course are also revisited within the 3D environments. Topics covered include modeling, texturing, skinning and animation. Emphasis is put on low polygon modeling techniques, best practices in game art production, and effective communication strategies between artists, programmers, and designers.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 332

Typically Offered
Fall or Spring

CYBR 320 - Foundations of Interactive Narratives

Credits: 3

This course focuses on the major elements of narrative for interactive environments. Students in this course explore the basics of narrative in the context of interactive games and media, with examination of digital storytelling in games and interactive environments of several varieties. Branching narratives, hypertext, multi- and non-linear concepts are also explored with an emphasis on balancing immersive and interactive aspects of digital narrative.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 137

Typically Offered
Fall or Spring

CYBR 322 - Multi-platform Interactive Media Design

Credits: 3

Interactive media applications are no longer restricted to personal computers. They can now be found on many distinct hardware platforms including mobile, tablet, wearable, and spatial computing devices. In this course, students will learn to design, prototype and develop media rich interactive experiences that can be deployed to a wide variety of hardware devices. Programming projects are required.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 210. Corequisite: CYBR 247

Typically Offered
Fall or Spring

CYBR 330 - Interactive Game and Audio Design

Credits: 3

This course provides students with exposure to the design, creation and production of audio in interactive applications and computer games. Students will become familiar with the use of sound libraries, recording sounds in the studio and in the field, generating sound with synthesizers, and effects processing. Students will create sound designs for interactive media, integrating music, dialog, ambient sound, sound effects and interface sounds within interactive programs.

Repeat for Credit
N

Requisites
Prerequisites: CYBR 137 and CYBR 210

Typically Offered
Fall or Spring

CYBR 332 - 3D Design and Modeling for XR

Credits: 3

This course focuses on the digital composition of three-dimensional forms and the relationship to space in an XR environment. The course covers methods for 3D modeling and problem-solving. Students will build a toolkit around topics such as 3D design principles, materials, and building processes. Additionally, an awareness of idea development and design research will be explored throughout the course.

Repeat for Credit
N

Typically Offered
Fall or Spring

CYBR 335 - Programming II

Credits: 3

Help students master basic concepts and become competent coders. Topics include object-oriented programming, pointers, inheritance, recursion, sorting and search algorithms, and advanced concepts such as overloading and memory management. Covers leveraging artificial intelligence in a game engine and explores various project types such as simulation, animation, and gaming.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 103 and CYBR 247.
Corequisite: CYBR 180.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

CYBR 357 - Computer Vision for Immersive Systems

Credits: 3

Computer vision for immersive systems is a comprehensive course that explores how machines interpret visual data. This multidisciplinary subject combines elements of artificial intelligence, machine learning, image processing, and computational models to replicate human visual perception. Students delve into algorithms for object detection, facial recognition, and scene understanding,

among others. Emphasizing both theoretical understanding and practical application, the course fosters innovation in areas like autonomous systems, robotics, extended and augmented reality.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 247

Typically Offered
Fall or Spring

CYBR 360 - Foundations of Game Engine Design and Development

Credits: 3

This course builds on the geometric transformation and projective geometry concepts of the Applied Mathematics for Cyber Systems course to provide students with theory and practical skills in game engine design. Topics include the graphics pipeline as it influences engine design, hardware principles and the relationship to game engine construction, mathematical principles involved in game engine design, scene graph construction and maintenance, texture and materials management, collision systems, physics systems, particle systems, and control systems. Furthermore, this course will examine software and toolsets that assist game engine designers in their tasks. Students will be expected to design and implement a game engine in teams as well as properly document their design and development strategy.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 280

Typically Offered
Fall or Spring

CYBR 365 - User Experience (UX) Design for Immersive Systems

Credits: 3

This course is an introduction to User Experience (UX) Design in the field of Digital Media and Immersive Systems. The course teaches and prepares students on how to use techniques of discovery and evaluation in the UX design process. Students will learn how to use digital toolkits to gather information about what users need within a UX framework and how to design and model interfaces based on UX Design best practices.

Repeat for Credit
N

Requisites
Corequisite: CYBR 137

Typically Offered
Spring, Summer

CYBR 366 - Cyber Security Operations

Credits: 3

Cyber security operations is an immersive course diving into the complex world of computer networks, digital security, information security (INFOSEC) and cyber threats. Covering topics from system risk assessments, threats, vulnerabilities, impact, effective countermeasures, and end-to-end communications
security (COMSEC); students learn to build robust security solutions, protect PII and information/data to national critical infrastructure, and combat cybercrime. Ideal for future cyber technology professionals, the course merges theory with hands-on labs, ensuring students gain crucial practical experience in this increasingly vital and rapidly evolving field of immersive cyber systems.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 250

Typically Offered
Fall or Spring

CYBR 391 - Data Structures and Algorithms for Cyber Systems

Credits: 3

This course focuses upon the application of data structures and associated algorithms to the development of software applications. Topics include interfaces, design patterns, arrays, stacks, queues, lists, trees, hash tables, graphs, recursion, data structure search and traversals, and dynamic programming. The software design patterns related to graphical applications is emphasized. Programming

assignments are a required part of this course.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 280. Corequisite: CYBR 335

Typically Offered
Fall or Spring

CYBR 401 - Immersive COOP Studio II

Credits: 3

Cooperative education is a work experience designed to supplement the educational process. Students will engage in on-campus activities designated as cooperative education, including relevant industrial experience, entrepreneurial activities, as well as faculty-supervised research and innovation opportunities.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 301

Typically Offered
Summer

CYBR 443 - Interactive Systems Design for Virtual Reality (VR)

Credits: 3

This project-based course is an investigation of VR as an illustrative, imaging, and graphical generation medium. It develops foundational design skills in immersive media creation, editing, compositing, layout and visual design for production. Emphasis will be on the application of visual design organization methods and principles for virtual reality media.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 210 and CYBR 280. Corequisite: CYBR 360

Typically Offered
Fall or Spring

CYBR 445 - Interactive Systems Design for Augmented Reality (AR)

Credits: 3

Through project-based studies, this course explores perceptual understanding, including aesthetics, graphic form, structure, concept development, visual organization methods and interaction principles for AR media. Students will design immersive and dynamic AR solutions to communication problems for interactive projects. Students will focus on creating appropriate and usable immersive design systems through the successful application of design theory and best practices.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 210 and CYBR 280. Corequisite: CYBR 360

Typically Offered
Fall or Spring

CYBR 455 - Human Computer Interactions for Cyber Systems

Credits: 3

Explores psychology and computing convergence in the design of cyber systems for human use. Focuses users' various sensory, motor, and cognitive abilities to use technology. Discusses predictive modeling, heuristic evaluation, interpretive methods, experimental testing, information presentation, task analysis, prototyping and the iterative design cycle, user interface implementation, and interface evaluation.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 280 and CYBR 335. Corequisite: CYBR 360

Typically Offered
Fall or Spring

CYBR 457 - Intelligent Spatial Computing Systems

Credits: 3

Students will engage in the development and application of spatial computing and machine learning technologies. Additionally, students will create interactive digital media systems that intelligently perceive and interconnect with the physical world. The curriculum blends theoretical foundations with real-world project work.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 280 and CYBR 335. Corequisite: CYBR 360

Typically Offered
Fall or Spring

CYBR 459 - Real-time Computing Systems

Credits: 3

Introduces design and applications of real-time computing systems. Explores traditional hard real-time concepts, design, and implementation to ensure timing guarantees and safety. Develop a deeper understanding of real-time aspects of system components such as OS, memory, scheduling, communication, timing and fault management.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 280 and CYBR 335. Corequisite: CYBR 360

Typically Offered
Fall or Spring

CYBR 460 - Software Engineering for Intelligent Cyber Systems

Credits: 3

Project creation, from concept to final output, and provides insights into workflows, tools, and techniques. Discusses integrations that streamline workflows by providing a single platform for real-time management of projects, assets, tasks, and versions. Track the progress of assets through the pipeline, implementation and testing strategies, software principles, and metrics. Delves into more advanced topics like intelligent systems and case studies from industry professionals.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 335

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

CYBR 495 - Immersive Cyber Systems Capstone I

Credits: 3

Through formal studies and perceptual understanding, including aesthetics, graphic form, structure, concept development, visual organization methods and interaction principles, students will design immersive and dynamic solutions to communication problems for interactive projects. Students will focus on creating appropriate and usable immersive design systems through the successful application of design theory and best practices.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 360

Typically Offered
Fall or Spring

CYBR 497 - Immersive Cyber Systems Capstone II

Credits: 3

This course is designed to engage the ISDD major in a capstone production experience. The instructor will form interdisciplinary student teams that will design, plan, prototype, and implement immersive systems projects. Student groups are required to test their product with users and provide written feedback and analysis. Students will be evaluated on individual contributions and their team's final capstone project.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 495

Typically Offered
Fall or Spring

CYBR 601 - Introduction to Cybernetic Modeling and Simulation

Credits: 3

Students will learn various cybernetic modeling and simulation methods to be applied within the context of complex integrated systems. Multiple simulation techniques and methodologies will be covered. This includes: Model Based Systems Engineering, Agent-Based Modeling, Discrete Event Simulation, and System Dynamics Simulation

Repeat for Credit
N

Requisites
Prerequisite: Experience with PC software.

Typically Offered
Fall, Spring, Summer

CYBR 603 - Integrated Systems Architecture

Credits: 3

Students are introduced to the principles and methods of Systems Architecture and includes: the resolution of ambiguity to identify system goals and boundaries; the creative process of mapping form to function; and the analysis of complexity and methods of decomposition and re-integration. Both heuristic and formal methods are covered within the context of this course.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

CYBR 680 - Cyber Systems and Risk Analysis

Credits: 3

An introductory course in Cyber Systems history, elements, regulations, operations, use of geospatial data; automation, safety issues; detect and avoid systems; sensors and payloads, human factors, and future. Special attention to Cyber Security Risks, Threats, Impact, Vulnerabilities, and Countermeasures will be identified. The Ryan-Nichols Risk Assessment equations will be used for qualitative risk analysis of threats so identified.

Repeat for Credit
N

Typically Offered
Fall

CYBR 682 - Open Source Cyber Surveillance

Credits: 3

This course questions the technical gaps, Intelligence Community (IC) assumptions, and important legal issues related to open source cyber surveillance with emphasis on Cyber Systems activities/deployment. Topics addressed include the responsible, legal, and ethical use of data and information gathered from the use of unmanned, semiautonomous systems, web data mining, social networks, and other modern technological systems.

Repeat for Credit
N

Typically Offered
Fall

CYBR 684 - Advanced Topics in Cyber Data Fusion

Credits: 3

This course is scenario-based, applying cyber surveillance techniques and analysis of collected data to realistic, terrain-oriented problems. Topics include the digital soldier and sailor, 360-degree battlefield awareness and the use of semiautonomous and fully autonomous technologies. Risk Assessment and Cyber Security countermeasures are the "glue" to successful implementation of data fusion techniques. The Ryan-Nichols Risk Assessment equations and other methods will be used for qualitative risk analysis of identified Cyber Threats.

Repeat for Credit
N

Typically Offered
Spring

CYBR 686 - Risk Management for Cyber Operations

Credits: 3

Cyber operations is focused on performing defensive and offensive security tasks to help assess organizational security postures of many government agencies. In this course, students will explore risk management strategies in both Defensive Cyber Operations (DCO) and Offensive Cyber Operations (OCO), as well as the tasks performed by each. Students will also be introduced to the Cyber Operations Cycle and its phases as well as the responsibilities of each member and their role within offensive and defensive teams.

Repeat for Credit
N

Typically Offered
Spring

CYBR 688 - Sense and Avoid Technologies in Aerospace Systems

Credits: 3

An advanced course in Sense and Avoid (SAA) technologies for Aerospace Systems. SAA is an extremely important concept and is the main obstacle for wider application of Aerospace Systems in non-segregated airspace related to traffic safety in civilian and military/ defense domains. This course presents the state-of-the-art research results from British, American, Australian and European universities, as well as corporate organizations such as Boeing and MITRE.

Repeat for Credit
N

Typically Offered
Fall

CYBR 707 - Research Methods, Design, and Analysis

Credits: 5

Survey of qualitative, quantitative, and design science research methods; using a range of tools to develop applied research skills focusing on research planning, roadmap development, systematic review, experimental design, testing, journal publication, and patent creation.

Repeat for Credit
N

Typically Offered
Fall, Spring

CYBR 708 - Cybernetic Systems Design and Dynamics

Credits: 3

Students survey and apply cybernetic techniques in analyzing and modeling complex systems. Requirements are derived in various domains and abstracted at conceptual, logical, and physical levels. Process, data, and state modeling are applied through industry projects that follow various systems development lifecycle."

Repeat for Credit
N

Typically Offered
Fall, Spring

CYBR 710 - Advanced Data Analytics for Cybernetic Systems

Credits: 3

This course prepares students to gather, describe, and analyze data, and use advanced statistical tools to make decisions on operations, risk management, finance, marketing, etc. Analysis is done targeting economic and financial decisions in complex systems that involve multiple partners. Topics include probability, statistics (hypothesis testing, regression), clustering, decision trees, and forecasting.

Repeat for Credit
N

Requisites
Prerequisite: Prior experience in programming and statistics.

Typically Offered
Fall, Spring

CYBR 751 - Cyber Defense Methods

Credits: 3

The course explores defense-in-depth techniques of layering people, process and technology controls to secure the enterprise. Topics include information security law, ethics, security concepts and mechanisms; security technologies; authentication mechanisms; mandatory and discretionary controls; basic cryptography and its applications; digital forensics, biometrics database security, intrusion detection and prevention, anonymity and privacy issues for information systems.

Repeat for Credit
N

Typically Offered
Fall, Spring

CYBR 760 - Aerospace Cybersecurity Studio

Credits: 3

The course provides a culminating experience for majors involving a substantive cybersecurity project that demonstrates a synthesis of learning accumulated in the major, including broadly comprehensive knowledge of the discipline and its methodologies. Students are required to synthesize, architect, design, and present applied cyber operations techniques within an industry context.

Repeat for Credit
N

Typically Offered
Fall, Spring

CYBR 780 - Design and Operations for Cyber Human Systems

Credits: 3

This course will introduce students to the intelligent systems approach to designing, building, and operating complex cyber human systems; requirements, functional decomposition, systems architecting, analysis of alternatives, project life cycle modeling, cost analysis, and technical performance measurement.

Repeat for Credit
N

Typically Offered
Fall or Spring

CYBR 782 - Social Computing Dynamics and Cyber Human Systems

Credits: 3

This course will orient students towards the Cyber Physical Social Systems (CPSS) paradigm. Students will be engaged in CPSS thinking, system dynamics, urban policy analysis, and social computing applications to organizational trust and operations. Additionally, students will be introduced to key principles of cyber systems, cybernetic systems theory, technological integrations, cyber marketing patterns, and technology adoption.

Repeat for Credit
N

Typically Offered
Fall

CYBR 783 - Interaction Design for Extended Reality Environments

Credits: 3

Students in this course will work on the interaction design of dialogues for interactive extended reality environments. The course will explore the psychological, physiological, linguistic, and perceptual factors of immersive environments. Students will learn the advantages and disadvantages of various interaction techniques, command language syntaxes, and data presentations.

Repeat for Credit
N

Typically Offered
Spring

CYBR 790 - Spatial Computing for Virtual Environments

Credits: 3

Covers tools and techniques for modeling, simulation, visualization and analysis of physical and virtual systems with an emphasis on multi-domain environments. Examples include airplanes, helicopters, trains, ships, cars, submarines, tanks, construction equipment, weapon

systems, air traffic control, flight simulation, and gaming. Development of models towards immersive augmented and virtual reality simulations will also be explored.

Repeat for Credit
N

Requisites
Prerequisite: CMST 190 and CMST 290 or an equivalent undergraduate course in computing principles

Typically Offered
Fall

CYBR 793 - Computer Geometry for Modeling

Credits: 3

Covers numerical and computer representations of curves and surfaces. This includes but is not limited to: geometric data management, interpolation methods. graph-based models, boolean models, solid geometry modeling, cubic B-splines, Bezier curves and surfaces. Additionally, industry applications towards robotics, computer graphics, and immersive systems development will be explored.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 790

Typically Offered
Fall

CYBR 795 - Machine Learning for Simulations

Credits: 3

Fundamental concepts and techniques of modeling, simulating, visualizing, and analyzing complex real-world quantitative and qualitative systems of systems by using artificial intelligence, knowledge acquisition and representation, reasoning, planning, machine learning, expert systems, intelligent agents and multi-agent systems, and search strategies; emphasizes practical applications for creating intelligent simulations.

Repeat for Credit
N

Requisites
Prerequisite: CYBR 790

Typically Offered
Spring

CYBR 799 - Special Topics in Cyber Systems

Credits: 0-6

Offered on sufficient demand. Advanced topics in the science, technology, or engineering of cyber systems.

Repeat for Credit
Y

Requisites
Prerequisite: Varies with announced topic.

Typically Offered
Fall, Spring, Summer

CYBR 801 - Prototyping for Advanced Immersive Systems

Credits: 3

Students will be given the opportunity to develop immersive experiences for high-end, experimental, and prototype equipment that is only available to students in this course. Students will learn how to work with complex immersive equipment systems and early access software in a collaborative online studio environment.

Repeat for Credit
N

Typically Offered
Spring

CZECH 101 - Czech for Travelers

Credits: 2

Introduction to the Czech language with emphasis on everyday expressions and vocabulary. History, social life, politics and other cultural issues are also introduced.

Note
Recommended for students participating in study abroad programs.

Repeat for Credit

N

Typically Offered
Other

K-State Core
6 Arts and Humanities

DANCE 110 - Breathe, Move, Be

Credits: 3

Through gentle movement, body awareness and breathing exercises, this course introduces students to the holistic well-being, movement efficiency and creative choice-making that are the result of somatic movement education. A wonderful foundation for any movement practice and excellent recuperation from the demands of academic life, this course is accessible to those with no prior movement training and prioritizes self-knowledge, acquired through the living body.

Repeat for Credit
Y

Typically Offered
Fall or Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

DANCE 115 - Yoga for Restoration

Credits: 3

Improve balance, flexibility and body awareness through an exploration of Yoga postures and breathing exercises. Excellent cross-training and recuperation for performers and athletes, this course also serves anyone seeking to strengthen their body to calm their mind. Key alignment principles and standard modifications to increase or decrease difficulty will be introduced, as will be the basics of Yoga philosophy.

Repeat for Credit
Y

Typically Offered
Fall or Spring

K-State Core
6 Arts and Humanities

DANCE 120 - Contemporary Dance I

Credits: 2-3

Introduction to principles of contemporary dance. Emphasis on correct body alignment, movement efficiency, and creative potential of the individual.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

DANCE 165 - Ballet I

Credits: 2-3

Introduction to basics of classical ballet training includes terminology, body positions, movement vocabulary, and principles of body alignment.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

DANCE 171 - Jazz Dance I

Credits: 2-3

A basic course in jazz technique and style, focusing on isolations, rhythmic articulation, and the control and release of energy.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

DANCE 181 - Tap I

Credits: 2-3

Designed for beginning dancers, this course develops skills, knowledge, vocabulary, and appreciation of tap dance as an art form through the presentation of fundamental tap techniques.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

DANCE 200 - Anatomy for Dancers

Credits: 1

Analysis of human skeletal structure. Application and implication for performance, teaching, and injury prevention.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Aesthetic Interpretation

DANCE 205 - Dance as an Art Form

Credits: 3

Dance in its religious, social, and artistic forms. Film, slides, demonstrations, and lectures will trace the function of dance in society, the influence of society on dance, how dance relates to other art forms, and current trends in the dance world.

Repeat for Credit
N

Typically Offered
On sufficient demand

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

DANCE 215 - Improvisational Structures

Credits: 2-3

Exploration of personal creative sources for spontaneous movement through improvisational structures. Emphasis on solo and group problem-solving in creating a performance work.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

DANCE 220 - Principles of Dance Technology

Credits: 1-3

Examination and application of computer, audio, and video technology to dance. Includes instruction and use in performance, choreography, education and research.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

DANCE 225 - Rhythmic Notation for Dance

Credits: 1

Introduction to basic elements of meter, tempo, rhythm, and notation. Application and practice to dance pedagogy,

performance, and choreography.

Repeat for Credit
N

Typically Offered
Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

DANCE 240 - West African Styles of Social Dance and Music

Credits: 2

Explores several styles of dancing and drumming from West Africa. Instruction includes technique in the traditional social dances, drumming/musical skills, and songs for the social dances. History, traditions, and social context of the dances.

Note
No prior experience is necessary. All musical instruments are supplied for class.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Global Issues and Perspectives

DANCE 250 - Performance Styles

Credits: 1

Study and practice of technique and performance of specific period/historical, character, or ethnic/specialty dance styles.

Repeat for Credit
Y

Typically Offered
On sufficient demand

K-State 8
Aesthetic Interpretation

DANCE 265 - Pointe Techniques

Credits: 1

Covers classical ballet pointe technique. Focuses on the development of both technique and artistic expression.

Repeat for Credit
Y

Typically Offered
Fall, Spring

DANCE 280 - Musical Theatre Dance

Credits: 2-3

History, technique and performance of musical theatre dance. Rehearsal and performance of selected examples of Broadway choreography.

Repeat for Credit
N

Requisites
Prerequisite: DANCE 120, DANCE 165, or DANCE 171 or permission of instructor.

Typically Offered
Spring-Odd Years

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

DANCE 323 - Contemporary Dance II

Credits: 2

Contemporary Dance II

Repeat for Credit
Y

Requisites
Prerequisite: DANCE 120 and/or consent of instructor.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

DANCE 324 - Contemporary Dance III

Credits: 2

Contemporary Dance III

Repeat for Credit
Y

Requisites
Prerequisite: DANCE 323 and/or consent of instructor.

Typically Offered
On sufficient demand

K-State 8
Aesthetic Interpretation

DANCE 325 - Ballet II

Credits: 2

Ballet II

Repeat for Credit
Y

Requisites
Prerequisite: DANCE 165 or consent of instructor.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

DANCE 326 - Ballet III

Credits: 2

Ballet III

Repeat for Credit
Y

Requisites
Prerequisite: DANCE 325 or consent of instructor.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

DANCE 371 - Jazz Dance II

Credits: 2

Intermediate course in jazz technique and style focusing on development of isolations, rhythmic articulation, and the control and release of energy.

Repeat for Credit
Y

Requisites
Prerequisite: DANCE 171.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

DANCE 372 - Jazz Dance III

Credits: 2

Advanced course in jazz technique and style focusing on development of isolations, rhythmic articulation, and the control and release of energy.

Repeat for Credit
Y

Requisites
Prerequisite: DANCE 371 or consent of instructor.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

DANCE 381 - Tap II

Credits: 2

Designed as an intermediate dance class that targets the

development of skills, knowledge, and appreciation of tap dance through the presentation of fundamental techniques and other movement experiences. Topics include: concert, rhythm, and fundamental tap dance.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

DANCE 382 - Tap III

Credits: 2

Designed as an advanced dance class that targets the development of skills, knowledge, and appreciation of tap dance through the presentation of techniques and other movement experiences. Topics include: Broadway and concert dance, rhythm, and Funk Tap dance.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

DANCE 395 - Dance Composition I

Credits: 3

Introduction to the principles of the choreographic craft. Practical experience in development of movement phrases. Culminating presentation and critique of work.

Repeat for Credit
N

Requisites
Prerequisite: DANCE 215.

Typically Offered
Other

K-State 8
Aesthetic Interpretation

DANCE 399 - Honors Seminar

Credits: 3

Open only to qualified students in the arts and sciences honors program.

Repeat for Credit
N

Typically Offered
On sufficient demand

K-State 8
Aesthetic Interpretation

DANCE 459 - Dance History I

Credits: 3

Covers dance, particularly ballet and modern dance, from beginnings until the turn of 20th century.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

DANCE 460 - Dance History II

Credits: 3

History of Dance from the 20th Century until the present.

Repeat for Credit
N

Requisites
Prerequisite: DANCE 459.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Historical Perspectives

DANCE 495 - Dance Composition II

Credits: 3

Advanced training and directed experiences in dance composition. Development of theme, phrasing, and style with particular emphasis on group forms.

Repeat for Credit
N

Requisites
Prerequisite: DANCE 395.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

DANCE 498 - Honors Tutorial in Dance

Credits: 1-3

Individually directed research/creative endeavor in dance, normally as a preliminary to writing a senior honors thesis.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing, membership in the honors program of the College of Arts and Sciences, and permission of instructor.

Typically Offered
On sufficient demand

DANCE 499 - Honors Project

Credits: 3

Open only to Arts and Sciences students who are active members of the University Honors Program.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

DANCE 502 - Performance Production

Credits: 0-1

Studies in the techniques of dance production and performance. Emphasis is on practical application.

Note
Course may be taken for 0, .5, or 1 credit.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

DANCE 503 - K-State Tap Dance Ensemble

Credits: 0-1

A performing ensemble that dances for the K-State and Manhattan communities.

Note
Audition required in April.

Repeat for Credit
Y

Typically Offered
Fall, Spring

DANCE 504 - Contemporary Dance Ensemble

Credits: 0-1

A contemporary dance repertory and performing ensemble.

Repeat for Credit
Y

Typically Offered
Fall, Spring

DANCE 505 - Methods and Materials of Teaching Dance

Credits: 2

An in-depth survey of the development of dance education and a practical examination of dance for its educative, artistic, disciplinary, and therapeutic values. Emphasis on

role of dance education, pedagogy, and advocacy.

Note
Instructor permission required to enroll.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Aesthetic Interpretation

DANCE 506 - Dance Education Fieldwork

Credits: 1

A semester of supervised fieldwork incorporating dance as an educative tool in the classroom, in a therapeutic setting, or in an advocacy position. Application of dance education theory under faculty supervision and conference.

Repeat for Credit
N

Requisites
Prerequisite: DANCE 505.

Typically Offered
On sufficient demand

DANCE 507 - K-State African Dance and Music Ensemble

Credits: 0-1

A performing group that is open to all students and does not require an audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring

DANCE 509 - CAPSTONE SEMINAR

Credits: 1

Introduction to the dance capstone project fields: choreographic, pedagogical, or research. The course orients students to research methodologies, IRB, and dance production requirements, while providing structured support during the proposal writing and submission process.

Repeat for Credit
N

Requisites
Prerequisite: DANCE 395, DANCE 505, or DANCE 605
or Corequisite: DANCE 395, DANCE 505, or DANCE 605

Typically Offered
Fall

DANCE 510 - CAPSTONE PROJECT

Credits: 2

Student develops and presents culminating interdisciplinary research, choreographic, or pedagogical project.

Repeat for Credit
N

Requisites
Prerequisite: Student is completing secondary major in Dance and the Human Experience.
Pre-Requisite OR Co-Requisite DANCE 509

Typically Offered
Fall, Spring

DANCE 599 - Independent Studies in Dance

Credits: 1-3

Selected topics in dance.

Note
Maximum of 3 hours applicable toward degree. Consent of department head.

Repeat for Credit
Y

Typically Offered
Other

DANCE 605 - Movement: Fundamentals, Analysis, and Observation

Credits: 3

Study, application, observation, and analysis of somatic movement fundamentals and their use in performance, education, and therapeutic practices.

Repeat for Credit
N

Requisites
Prerequisite: DANCE 215 or permission of instructor

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

DAS 020 - University Honors Program

Credits: 0

All students participating in the University Honors Program and who are enrolled in the College of Arts & Sciences must enroll each semester.

Repeat for Credit
Y

Typically Offered
Fall, Spring

DAS 030 - Introduction to the English Language Program

Credits: 0

The purpose for DAS 030 is to provide a monitoring mechanism for English Language Program students. It also allows the ELP, International Programs and International Pre-admissions to track new international students.

Note
This course is for zero credits.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DAS 032 - Training in Organization, Wellness, Academics, Responsibilities and Discipline in the ELP

Credits: 1-2

This course is designed to engage English Language Program (ELP) students who are at risk due to repeated non-performance in ELP classes. Explores good study skills, healthy living habits, community involvement, self-discipline, and guided study sessions.

Note
One credit required for students after one semester of non-performance, two credits required for continued enrollment for those with repeated non-performance over consecutive semesters. Department placement.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

DAS 050 - National Student Exchange

Credits: 1-15

Enrollment in this course would be required for students participating in the National Student Exchange program. Enrollment in this course would serve primarily as a placeholder and enable the student to maintain full-time enrollment status at K-State. A grade of I (incomplete) would be posted at the end of each term (semester) of enrollment. Upon receipt of the transfer transcript from the chosen exchange institution, the DAS 050 course and would be removed from the student's record and would be replaced by a text entry detailing participation in the National Student Exchange program. The actual hours earned would be reflected as transfer credit from the institution attended.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DAS 080 - Ambassador Service and Leadership in the College of Arts and Sciences

Credits: 0-1

For students who have been chosen as ambassadors for the College of Arts and Sciences. Students are required to enroll to be ambassadors.

Repeat for Credit
Y

Typically Offered
Fall, Spring

DAS 100 - First Year Seminar in K-State Culture

Credits: 3

An overview of the intellectual and cultural life of the university. Students will attend a variety of events as a community and learn to reflect on and evaluate these events through writing, class discussion, and public speaking.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation

Credits: 1

Orients learners to studies in the College of Arts and Sciences, helps learners to develop skills and strategies indicative of success, map their college plan, and compare interdisciplinary ways of knowing and learning across disciplines.

Repeat for Credit
N

Typically Offered
Fall, Spring

DAS 102 - Practicum in Student Governance

Credits: 0-1

Practicum in Student Governance

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility

DAS 115 - Orientation to Health Careers

Credits: 1

Acquaints students whose career goals are in the health professions with the variety of options available and with the corresponding academic requirements. Discussion covers an introduction to the personal responsibilities that health-care workers assume and the impact of social and economic problems on our health-care delivery system. Includes an orientation to general requirements for success as a student at K-State and in professional health related programs.

Repeat for Credit
N

Typically Offered
Fall

DAS 130 - Careers in Science and Engineering

Credits: 0-1

Introduction to career opportunities with emphasis on gaining perspective from practicing professionals from multiple science and engineering disciplines through weekly seminars held throughout the semester.

Note
Two lab hours per week.

Repeat for Credit
N

Typically Offered
Fall

Cross-listed
DEN 130

DAS 135 - Special Studies in English

Credits: 1-12

Introduction to basic English syntax, writing, reading,

speaking, and listening for native speakers of other languages.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DAS 136 - Beginning English I

Credits: 1-18

Introduction to basic English syntax, writing, reading, speaking, and listening for native speakers of other languages.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DAS 138 - Beginning English II

Credits: 1-18

Introduction to basic English syntax, writing, reading, speaking, and listening for native speakers of other languages.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DAS 140 - Intermediate English I

Credits: 1-18

Intermediate study of basic English sentence structure, writing, reading, speaking and listening for native speakers of other languages.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DAS 148 - Basic English Language Orientation

Credits: 1

Emphasizes the basic cultural and academic understanding necessary for new international students to be successful in ELP and university classes at K-State. Introduction to cultural differences, campus resources, health and safety, study skills, housing issues, plagiarism, basic immigration rules, classroom expectations.

Repeat for Credit
N

Requisites
Prerequisite: Placement by the English Language Program.

Typically Offered
Fall, Spring

DAS 150 - Intermediate English II

Credits: 1-18

Intermediate study of basic English sentence structure, writing, reading, speaking and listening for native speakers of other languages.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DAS 151 - Advanced English Speaking I for Non-native Speakers of English

Credits: 3

Comprehension and appropriate response to non-academic discourse; development of accurate pronunciation, oral grammar, and vocabulary usage. Development of fluency.

Repeat for Credit
N

Requisites
Prerequisite: Placement by the English Language Program.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

DAS 152 - Advanced English Writing I

Credits: 6

Review of advanced grammatical structures; practice in writing using academic style, organization and rhetorical conventions; transition to an academic vocabulary in writing; introduction to conventions of research writing and citation.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

DAS 153 - Advanced English Reading I for Non-native Speakers of English

Credits: 6

Introduction to advanced critical reading skills in at level reading passages; introduction to unsimplified academic readings; development of an academic vocabulary; increase of reading speed to approach that of U.S. undergraduates.

Repeat for Credit
N

Requisites
Prerequisite: Placement by the English Language Program.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

DAS 154 - Advanced English Listening I for Non-native Speakers of English

Credits: 3

Comprehension and note-taking of academic lectures at level; introduction to unsimplified academic lectures; comprehension of non-academic discourse at level; use of notes from lecture for test taking.

Repeat for Credit
N

Requisites
Prerequisite: Placement by the English Language Program.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

DAS 156 - Introduction to American Academic Research Writing for International Students

Credits: 1

Introduction to American conventions of research paper writing with emphasis on American academic standards.

Repeat for Credit
N

Requisites
Prerequisite: Permission by the English Language Program.

Typically Offered
Fall, Spring, Summer

DAS 157 - Introduction to American Academic Presentation for International Students

Credits: 1

Introduction to American rhetorical patterns of academic speaking, focusing specifically on deductive and inductive organization patterns and expectations of American audiences.

Repeat for Credit
N

Requisites
Prerequisite: Permission by the English Language Program.

Typically Offered
Fall, Spring, Summer

DAS 158 - Orientation to the American Higher Education System

Credits: 1

Designed to support English Language Program students as they transition to K-State, the English Language Program (ELP), and the Manhattan community. Introduction to the campus resources available.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

DAS 162 - Advanced English Writing II for Non-native Speakers of English

Credits: 6

Use of advanced grammatical structures and academic vocabulary in writing; practice in editing and revision with an eye to academic to academic style, organization and rhetorical conventions; use of conventions of research writing and citation.

Repeat for Credit
N

Requisites
Prerequisite: Placement by the English Language Program.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

DAS 163 - Advanced English Reading II for Non-native Speakers of English

Credits: 3

Development of advanced critical reading skills with unsimplified academic passages; active usage of an academic vocabulary; increase of reading speed equivalent to that of U.S. undergraduates.

Repeat for Credit
N

Requisites
Prerequisite: Placement by the English Language Program.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

DAS 164 - Advanced English Listening II for Non-native Speakers of English

Credits: 3

Comprehension and note-taking of non-simplified academic lectures; comprehension of non-lecture academic discourse; use of notes from lectures and other sources for test taking.

Repeat for Credit
N

Requisites
Prerequisite: Placement by the English Language Program.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

DAS 165 - Advanced English Speaking II for Non-native Speakers of English

Credits: 3

Comprehension and appropriate response to non-academic and academic discourse; development of accurate pronunciation, oral grammar, and vocabulary usage. Development of fluency.

Repeat for Credit
N

Requisites
Prerequisite: Placement by the English Language Program.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

DAS 166 - Advanced English Writing III for Non-native Speakers of English

Credits: 3

Mastery of independent editing and revision with an eye to academic style, organization, rhetorical conventions and register; mastery of conventions of research writing and citation.

Repeat for Credit
N

Requisites
Prerequisite: Placement by the English Language Program.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

DAS 167 - Basic Grammar in Writing

Credits: 3

Review of basic English grammar; practice of basic grammar in writing; review of grammar usage in academic writing; practice in proofreading and editing of work.

Repeat for Credit
N

Requisites
Prerequisite: Permission by the English Language Program.

Typically Offered
Fall, Spring

DAS 168 - Technical Communication for International Students

Credits: 3

Addresses the needs of non-native English speakers studying in the STEM fields. Introduces technical vocabulary, conventions, forms of documents, and practices of written, oral and online technical communication in the United States. Grammar and pronunciation support provided as needed. Student portfolio will include a resume, project proposal, memos, technical report, poster presentation, and personal website.

Repeat for Credit
N

Requisites
Prerequisite: Placement by the English Language Program.

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

DAS 169 - Digital English for International Students

Credits: 2

Instruction in online language and communication for international students in order to develop strategies and skills for working effectively in academic digital interaction and collaboration. Includes study of function and use of different web 2.0 tools. Communication skills for intercultural collaboration, and the English language styles and rhetoric appropriate in specific online settings.

Repeat for Credit
N

Requisites
Corequisite: Advanced English II.

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives

DAS 175 - Business Communications for Non-Native Speakers

Credits: 3

This course will introduce non-native English speakers to

key U.S. business terminology, norms for written and oral communication, and business culture in the U.S. Students will practice business communication and teamwork skills in a hands-on setting.

Note
Students in this course must be enrolled in a degree program in the College of Business Administration.

They must be non-native English speakers.

Students must have completed or achieved part-time status in the English Language Program.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.

DAS 176 - Reading Skills for Non-Native Speakers of English

Credits: 3

An advanced course designed to improve reading skills and increase academic vocabulary of non-native speakers of English engaged in academic classes.

Repeat for Credit
Y

Typically Offered
Fall, Spring

DAS 177 - Written Communication for Non-Native Speakers of English

Credits: 3

Instruction in academic reading and writing skills in order to develop reading skills, increase reading speed, and improve writing of reports, analyses, and summaries. Includes grammar review, the study of style, and development of an academic vocabulary.

Repeat for Credit
Y

Requisites
Prerequisite: Permission by the English Language Program.

Typically Offered
Fall, Spring, Summer

DAS 178 - Listening Skills

Credits: 3

Instruction to improve listening, comprehension, and note-taking skills. Instruction in conversational speaking, with an emphasis on developing oral fluency and the effective use of vocabulary and idioms. Includes pronunciation practice, group work, and short academic presentations.

Repeat for Credit
Y

Requisites
Prerequisite: Permission by the English Language Program.

Typically Offered
Fall, Spring, Summer

DAS 179 - Pronunciation and Speaking Skills for Non-Native Speakers of English

Credits: 2-3

Introduction in speaking for non-native speakers of English to improve comprehension of non-simplified conversational English. Practice in asking for clarification, responding appropriately to requests, and encouraging interaction, as well as the pronunciation of troublesome English sounds and intonation patterns. Also brief introduction to American culture, especially the American educational system.

Repeat for Credit
Y

Requisites
Prerequisite: Placement by the English Language Program.

Typically Offered
Fall, Spring

DAS 181 - Advanced Integrated Skills

Credits: 3

An advanced, combined-skills course to improve the reading, writing, and speaking skills of non-native speakers

of English.

Repeat for Credit
Y

Typically Offered
Fall, Spring

DAS 184 - Practical Training in ESL

Credits: 1-2

Introduction to practical classroom skills for the non-education major planning to teach ESL abroad as part of a study abroad or internship abroad experience.

Repeat for Credit
N

Requisites
Prerequisite: Permission by the English Language Program.

Typically Offered
Fall, Spring

DAS 185 - Teaching and Cultural Orientation for International Teaching Assistants

Credits: 3

Introduction to American undergraduate education, American culture, and university policies. Discussion of effective teaching techniques, nonverbal language, and coping techniques. Practice focusing on pronunciation, vocabulary, grammar, and interactive speaking skills. Individual tutorials based on video-taped teaching presentations.

Repeat for Credit
Y

Requisites
Prerequisite: Permission by English Language Program.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives

DAS 195 - CAT Community Connections

Credits: 1-3

Interdisciplinary course that explores the connections among two different fields, courses, or disciplines.

Note
For first-year students enrolled in a specific CAT Community linked to the College of Arts and Sciences.

Repeat for Credit
N

Typically Offered
Fall, Spring

DAS 197 - Introduction to Integrated Health Studies

Credits: 1

Acquaints students with the Integrated Health Studies secondary major program themes: social and humanistic dimensions of health, ethics in health sciences, multicultural awareness in health, and scientific and statistical reasoning. Prepares students for integrated learning in the coursework associated with the program to set the tone for the capstone experience. Thematic learning and exposure to digital literacy are key components.

Repeat for Credit
N

Typically Offered
Fall, Spring

DAS 199 - Independent Reading

Credits: 0-3

Independent Reading Program.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DAS 214 - Introduction to Arts & Sciences Education Theory and Practice

Credits: 0-2

Introduces learning theory and teaching practices for arts and sciences learning assistants. Presents theoretical issues such as conceptual development, questioning techniques, and cooperative learning. Students will read research literature on teaching and learning in arts and sciences and engage in classroom discussions. Students are expected to reflect on their own teaching practices throughout the semester as well.

Note
Student must be admitted to the LA Program to enroll. Permission of instructor.

Repeat for Credit
N

Typically Offered
Fall, Spring

DAS 225 - Fundamentals of Global Food Systems Leadership

Credits: 3

An interdisciplinary approach to the fundamental roles people, policies, and cultures play in the global food system enterprise as it relates to sustainable food production, processing, distribution, and availability. Students will explore complexities within self, others, and community related to leadership in the context of a rapidly increasing global population.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
GENAG 225, LEAD 225

K-State 8
Global Issues and Perspectives

DAS 240 - Practicum in Pre-Health

Credits: 1

Forty hours spent observing the practice of dentistry, medicine, or optometry. Students are under the supervision and direction of individual dentists, physicians, or optometrists.

Repeat for Credit
Y

Requisites
Prerequisite: Sophomore standing, permission of the health professions advisor.

Typically Offered
Fall, Spring, Summer

DAS 315 - Creating a Competitive Health Professional School Application

Credits: 1

For students who are preparing to apply to health professional schools in the coming year. Assist in drafting a personal statement, obtaining letters of recommendation, preparing for the interview process, learning about the Centralized Application Services, as well as other preparation needed for their respective entrance examination. Addresses current trends and topics in health care such as interprofessional education, health care disparities, and cultural competence.

Repeat for Credit
N

Typically Offered
Spring

DAS 325 - Uncertainty in Global Food Systems Leadership

Credits: 3

Explore technical and adaptive elements of grand challenges across disciplines. This course addresses the impact of cultural identity, life experience, and world views on leadership relationships as it relates to privilege and inclusion in the context of global food systems. Students will consider elements of community-engaged work.

Repeat for Credit
N

Requisites
Prerequisite: LEAD 225, DAS 225, or GENAG 225.

Typically Offered
Spring

Cross-listed

GENAG 325, LEAD 325

K-State 8
Human Diversity within the U.S.

DAS 333 - Origins

Credits: 3

An interdisciplinary general education course examining how scholars in the sciences and humanities approach knowledge about the universe, the planet earth, and life itself. How did the universe begin? How did life begin and how does it evolve? How has the planet changed throughout its history? How were answers to these questions discovered? How do we construct narratives about these events, and how do those texts reveal our assumptions and values?

Repeat for Credit
N

Typically Offered
Other

K-State 8
Natural and Physical Sciences

DAS 350 - Topics in the Humanities (Study Abroad)

Credits: 1-18

This is an umbrella course for numerous individual courses offered to students in the humanities in Italy program and other study abroad experiences.

Note
Prerequisite: Permission of the director of the individual study abroad experience.

Repeat for Credit
Y

Typically Offered
Fall

K-State 8
Global Issues and Perspectives

DAS 355 - Introduction to Nonviolence Studies

Credits: 3

The theory and practice of nonviolence as a method of social change and as a personal way of life. This class will engage students in the consideration of violence and nonviolence, from dynamics that occur within ourselves to those that affect the future of the Earth and its many life forms. Students will share with each other from their own lived experience and will learn from the writings of people who have practiced nonviolence in their lives and work.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility

DAS 388 - Honors Internship

Credits: 1-3

A scholarly investigation related to activities in a place of employment or in a volunteer situation.

Note
Written and oral presentations are required. Concurrence of a faculty advisor and approval of the arts and sciences honor program advisory council.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Natural and Physical Sciences

DAS 400 - Undergraduate Research in Arts and Sciences

Credits: 0-3

Independent mentored research project.

Note
Students may but are not required to apply to the Arts & Sciences Undergraduate Research Program and receive an award before enrolling.

Repeat for Credit
Y

Requisites
Prerequisite: Enrollment in an Arts & Sciences degree program.

Typically Offered
Fall, Spring, Summer

DAS 401 - Independent Undergraduate Research in Arts and Sciences

Credits: 0-3

Independent mentored research project.

Note
Students are required to apply to the Arts & Sciences Undergraduate Research Program and receive an award before enrolling.

Repeat for Credit
Y

Requisites
Prerequisite: (1) Enrollment in an Arts & Sciences degree program (2) Students must apply to the Arts & Sciences Undergraduate Research Program and receive an award before enrolling

Typically Offered
Fall, Spring, Summer

DAS 405 - Topics in Medical Laboratory Science

Credits: 3-6

Basic principles and practices of the medical laboratory, techniques and special projects.

Note
This course is part of the Medical Laboratory Science curriculum and is not available to students outside of the MLS major.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Natural and Physical Sciences

DAS 420 - Primary Texts Seminar

Credits: 3

Emphasizes intellectual history through the lens of social and political development. Students will learn about the impacts of cultural developments such as the awakening of ancient idealism, Rennaissance philosophy and literature, the Scientific Revolution, the Enlightenment, and Postmodern philosophy and art.

Note
This course serves as the capstone class for the Primary Texts Certificate, and students in the program will complete their capstone paper within the context of the class, but the course open to all undergraduate students. This course is cross listed with POLSC 420.
Weekly class discussion is required. All reading materials are supplied by the Primary Texts Certificate program.

Repeat for Credit
N

Typically Offered
Fall

Cross-listed
POLSC 420

DAS 425 - Global Food Systems Leadership in Action

Credits: 3

In this capstone course, students will conduct a community-engaged global food systems leadership research/service project. Emphasis will be placed on data collection, analysis and dissemination to appropriate audiences. Additional emphases will be on ethical dimensions of leadership and individual exploration of careers and roles within global food systems.

Repeat for Credit
N

Requisites
Prerequisite: LEAD 225, DAS 225, or GENAG 225 and LEAD 325, DAS 325, or GENAG 325

Typically Offered

Fall

Cross-listed
GENAG 425, LEAD 425

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

DAS 450 - Honors Colloquium

Credits: 3

An interdisciplinary colloquium in which topics vary by semester. Consistently incorporates perspectives from more than one discipline and area among the arts, humanities, social sciences, and sciences.

Repeat for Credit
N

Requisites
Prerequisite: Membership in the honors program; one honors course in addition to introduction to the honors Program in the College of Arts and Sciences.

Typically Offered
Other

DAS 455 - Violence, Nonviolence and Social Change

Credits: 3

This course reviews historical and contemporary responses to violence around the world by studying ideas, strategies, organizational approaches, and societal impacts on nonviolence and social change. Emphasis is placed on historical antecedents to recent violence and nonviolence, and on the analysis of up-to-date resources as they relate to social change.

Repeat for Credit
N

Requisites
Prerequisite: DAS 355.

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

DAS 475 - Nonviolence Studies: Women and Peace Movements

Credits: 3

Analyzes women and girls as leaders of diverse peace movements in the present and recent past.

Repeat for Credit
N

Requisites
Prerequisite: DAS 355.

Typically Offered
Fall, Spring, Summer

K-State 8
Historical Perspectives
Human Diversity within the U.S.

DAS 496 - Integrated Computer Science Capstone

Credits: 1

Capstone project for the Integrated Computer Science Major.

Note
Majors only

Repeat for Credit
N

Requisites
Prerequisite: Instructor permission, senior in Integrated Computer Science

Typically Offered
Fall or Spring

DAS 497 - Integrated Health Studies Capstone

Credits: 0-2

Capstone experience for the Integrated Health Studies Secondary Major. Follows the structure of the major,

fostering integration of learning through the application of knowledge and skills from different areas. Concludes with individual exploration and guided research in an area of specific interest to the student that integrates or synthesizes different aspects of health studies.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in Integrated Health Studies Secondary major.

Typically Offered
Fall, Spring, Summer

DAS 498 - Social Sciences Capstone

Credits: 1

Individual exploration of the social science major to synthesize knowledge and skills acquired in social science courses.

Repeat for Credit
N

Requisites
senior standing in social science major

Typically Offered
Fall, Spring

DAS 499 - Physical Sciences Senior Report

Credits: 1

Individual exploration of an area of physical sciences culminating in a final formal written report. Capstone course required of physical sciences interdisciplinary major.

Note
Permission of physical sciences advisor.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences

DAS 501 - Health Science Clinical Training

Credits: 3-12

Clinical training for affiliated partners.

Note
Consent of advisor required.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DAS 506 - Undergraduate Cancer Research

Credits: 1

Independent mentored research on a cancer-related research project. Includes three seminars covering an introduction to cancer and cancer research, responsible conduct in research, and keeping laboratory notebooks. Students will present brief oral and/or poster presentations on their research project and its relevance to cancer.

Note
The student must have received a Johnson Cancer Research Center Undergraduate Cancer Research Award (CRA) prior to enrolling for the credit.

Repeat for Credit
Y

Typically Offered
Spring

DAS 507 - Senior Research in Latin American Studies

Credits: 3

Independent research product under supervision by director of Latin American Studies.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives

DAS 525 - Senior Research in International Studies

Credits: 3

A research paper or project on an international topic.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives

DAS 550 - Advanced Topics in the Humanities (Study Abroad)

Credits: 0-18

This is an umbrella course for numerous individual courses offered to students in the Humanities in Italy program and other study abroad experiences.

Note
Permission of the director of the individual study abroad experience.

Repeat for Credit
Y

Typically Offered
Spring

K-State 8
Global Issues and Perspectives

DAS 555 - Themes in Nonviolence Studies

Credits: 3

Explores nonviolence from a national and global perspective, with particular emphasis on emergent techniques and themes in nonviolence studies with particular emphasis on conflict resolution, peacekeeping and peacebuilding, and intersections of gender, race, class, ethnicity, and religion.

Repeat for Credit
Y

Requisites
Recommended prerequisite: DAS 355.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

DAS 575 - Peacebuilding

Credits: 3

Explores how social problems, violence and war are generated and how people are working to build conditions that produce peace. Students will analyze peacebuilding efforts at home, in communities, in countries, in regions, and in the global social system.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

DAS 582 - Natural Resources Environmental Sciences Project

Credits: 3

A comprehensive project in NRES. Requires integration of information and understanding acquired in NRES secondary major courses. Students must prepare and present written and oral reports.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: All writing and oral communications courses required for major. Prerequisite or concurrent enrollment: Fifteen hours of approved courses in NRES secondary

major.

Typically Offered
Fall, Spring

Cross-listed
GENAG 582 and DEN 582

K-State 8
Natural and Physical Sciences
Social Sciences

DAS 590 - Applied Nonviolence

Credits: 3

The capstone experience for the Undergraduate Certificate in Nonviolence Studies, includes field placement in a campus or community organization in which student will have a skill-and-research-based experience in nonviolence-related social change project. Projects can be local, regional, national, or international in scope. Concurrently, students will engage in academic readings and class sessions that address feminist and nonviolent approaches to social change, program design, and participatory action research. This course will provide students with professional and academic skills that relate to employment and graduate work in diverse fields.

Repeat for Credit
N

Requisites
Prerequisite: DAS 355.

Typically Offered
Spring-Even Years

Cross-listed
WOMST 590 Women's Studies Practice and Theory

K-State 8
Ethical Reasoning and Responsibility

DED 020 - Honors Program

Credits: 0

All students accepted into the College of Education honors program must enroll each semester.

Repeat for Credit
Y

Typically Offered
Fall, Spring

DED 051 - Study Skills Laboratory

Credits: 1-3

Helps the student to learn effective study methods, analyze difficulties in reading and studying, and prepare for and improve performance in examinations.

Repeat for Credit
Y

Typically Offered
Fall, Spring

DED 100 - Pre-Professional Laboratory Experiences

Credits: 1

Supervised experiences in education designed to facilitate orientation and investigation of teaching through the teacher aide program.

Repeat for Credit
Y

Typically Offered
Fall, Spring

DED 150 - Topics in Education

Credits: 0-12

A study of topics in the field of education.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DED 189 - Introduction to the University Honors Program

Credits: 1-3

Overview of the University Honors Program including directions, goals, and student requirements for completion

of the program.

Repeat for Credit
N

Typically Offered
Fall, Spring

DED 320 - Honors Seminar

Credits: 1

Selected topics in education.

Repeat for Credit
Y

Typically Offered
Fall, Spring

DED 350 - Problems in Education

Credits: 0-12

A study of topics in the field of education.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DED 420 - Honors Project

Credits: 0-3

Individual projects under the supervision of a professor.

Repeat for Credit
Y

Requisites
Prerequisite: Participation in COE Honors Program.

Typically Offered
Fall, Spring, Summer

DED 895 - Preparing for the Professoriate in Education

Credits: 1

This course targets graduate students who plan to enter the professoriate in education. Examines topics such as the job search, integration into the professoriate, expectations for promotion and tenure, and achievement in academia.

Repeat for Credit
N

Typically Offered
Spring

DEN 015 - Engineering Student Success Seminar

Credits: 0

Supports engineering students in identifying potential barriers to student success and gaining access to related campus resources. Students will participate in interactive small groups and discussions. This course will also assist students in developing effective academic skills including, but not limited to: time management, organization, learning styles, effective communication, academic planning and goal setting.

Note
One hour per week.

Repeat for Credit
Y

Requisites
Prerequisite: General Engineering students only.
Prerequisite and/or co-requisite: Math 100 or Math 150.

Typically Offered
Fall, Spring

DEN 060 - Reinstatement Support

Credits: 0

Students who have been reinstated into the College of Engineering must enroll in this course. This course will provide frequent communication and support in the areas of study skills and time management.

Repeat for Credit
Y

Typically Offered
Fall, Spring

DEN 120 - Multicultural Engineering Enrichment Seminar

Credits: 1

Introduction to the academic and intellectual demands of an engineering curriculum from a multicultural perspective. Develop group cohesiveness and an attitude of mutual support by engaging in collaborative learning. Help students acquire effective study methods, analyze/compare learning/teaching styles, prepare for and improve examination performance, promote optimum utilization of campus resources, develop leadership and communication skills and enhance self-esteem.

Note
Credit may not be applied towards an engineering degree.

Repeat for Credit
Y

Typically Offered
Fall

DEN 130 - Careers in Science and Engineering

Credits: 0-1

Introduction to career opportunities with emphasis on gaining perspective from practicing professionals from multiple science and engineering disciplines through weekly seminars held throughout the semester.

Note
Two lab hours per week.

Repeat for Credit
N

Typically Offered
Fall

Cross-listed
DAS 130

DEN 160 - College of Engineering Orientation

Credits: 1

Help incoming K-State students' transition to the college of engineering. Students will be introduced to the requirements and expectations of the college of engineering. They will be exposed to tools to promote student success, professional development, and professionalism. Additionally, students will be introduced to all majors offered at K-State in the college of engineering and will be assisted in evaluating their options in order to select the most compatible major.

Repeat for Credit
N

Requisites
College of Engineering majors only; or instructor permission

Typically Offered
Fall, Spring

DEN 161 - Engineering Problem Solving

Credits: 1

Introduction to application-oriented engineering problem solving skills using fundamental engineering problems specific to each discipline, teamwork, and communication skills.

Note
Two hour lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Freshmen or Sophomore only. B or better in MATH 100; OR C or better in MATH 150; OR Prerequisite or co-requisite: MATH 220.

Typically Offered
Fall, Spring

DEN 189 - Introduction to the University Honors Program

Credits: 1

Overview of the University Honors Program, including directions, goals and student requirements for completion of the program.

Repeat for Credit
N

Typically Offered
Fall, Spring

DEN 220 - Multicultural Engineering Colloquium

Credits: 1

Continuation of DEN 120. Emphasis on career exploration and development, introduction to graduate school options, preparation and responsibility for advising process, tips on breaking the failure cycle, behavior modification strategies, and developing and utilizing leadership skills.

Note
Credit may not be applied towards an engineering degree.

Repeat for Credit
N

Typically Offered
Spring

DEN 301 - Creative Problem Solving in Engineering

Credits: 1

Overview of major topics related to creative thinking, including idea development, overcoming personal and professional obstacles, managing change, effective problem solving, and teamwork productivity.

Note
Two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing or consent of instructor.

Typically Offered
Spring

DEN 325 - Engineering Professionalism and Decision Making

Credits: 1

An introduction to the complexities of making decisions as an engineer. Students will explore the relationship between ethics and engineering by applying classical moral theory and decision making concepts to evaluate engineering issues and decisions encountered in academic and professional careers.

Note
One hour lecture and one hour activity a week.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility

DEN 398 - Problems in Engineering and Technology

Credits: 0-4

A study of problems or topics in a specialized area of engineering or technology.

Note
Approval of department head or dean.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DEN 399 - Honors Colloquium in Engineering

Credits: 1

Selected topics of general interest.

Note
Open to students in the engineering honors program for one semester.

Repeat for Credit
N

Typically Offered
Spring

DEN 450 - Impact of Technology on Society

Credits: 3

A study of social, economic, and environmental problems as a function of technology. Study of effect of various significant technological developments on present society and parallels with present developments. Study of current problems, detection of causes, and analysis of solutions. Implications for the future; governmental, industrial, and individual responsibility in detection of potential problems and methods of control or solution.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing or above.

Typically Offered
Fall, Spring

DEN 499 - Honors Research in Engineering

Credits: 1

Individual research problem selected with approval of faculty advisor. Written report is presented at end of second semester.

Note
Open to seniors in the engineering honors program for two semesters.

Repeat for Credit
Y

Typically Offered
Fall, Spring

DEN 590 - Interdisciplinary Engineering Capstone Design Experience I

Credits: 0-4

Provides culminating capstone engineering hands-on experiences for students from different degree programs in the Carl R. Ice College of Engineering, working collectively as interdisciplinary project teams. This class focuses on solving real-world complex engineering problems through the application of engineering design principles, engineering science/analyses, and interdisciplinary collaboration and innovation. Students will work in teams with the facilitation of instructors to design, build, and test engineering devices, prototypes, simulation models, or data/computing-based solutions using a design process with design reviews and presentations.

Note
Credit hours variable depending on department requirements. Instructor permission.

Repeat for Credit
N

Typically Offered
Fall, Spring

DEN 591 - Interdisciplinary Engineering Capstone Design Experience II

Credits: 0-4

Continuation of the capstone engineering hands-on experiences for students from different degree programs in the Carl R. Ice College of Engineering, working collectively as interdisciplinary project teams. This class focuses on solving real-world complex engineering problems through the application of engineering design principles, engineering science/analyses, and interdisciplinary collaboration and innovation. Students will work in teams with the facilitation of instructors to design, build, and test engineering devices, prototypes, simulation models, or data/computing-based solutions using a design process with design reviews and presentations.

Note
Credit hours variable depending on department requirements.

Repeat for Credit
N

Requisites
Prerequisite DEN 590 or instructor permission.

Typically Offered
Fall, Spring

DEN 598 - Topics in Engineering and Technology

Credits: 1-3

A study of problems or topics in a specialized area of engineering or technology.

Note
Approval of department head or dean.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DHE 020 - University Honors Program

Credits: 0

All students participating in the University Honors Program and who are enrolled in the College of Health and Human Sciences must enroll each semester.

Repeat for Credit
Y

Typically Offered
Fall, Spring

DHE 102 - Honors Practicum in Research, Teaching, Administration, or Extension

Credits: 0-1

Practicum completed in collaboration with a faculty member that enhances skills in research, teaching, administration, or extension programming.

Repeat for Credit
Y

Requisites
Prerequisite: College of Health and Human Sciences honors program member and consent of honors program coordinator.

Typically Offered
Fall, Spring

DHE 195 - CAT Community Connections

Credits: 1-3

Interdisciplinary course that explores the connections among two different fields, courses, or disciplines. For first-year students enrolled in a specific CAT Community linked to the College of Health and Human Sciences programs.

Repeat for Credit
N

Typically Offered
Fall, Spring

DHE 300 - Conducting Honors Research

Credits: 1

This one credit seminar provides an overview of the process of conducting an honors project, which could be undergraduate research or other scholarly project. The seminar is designed for a sophomore and junior participants in the University Honors Program.

Repeat for Credit
N

Typically Offered
Fall, Spring

DHE 399 - Honors Seminar in Human Ecology

Credits: 1

Selected topics in health and human services.

Repeat for Credit
N

Requisites
Prerequisite: For students in honors program only.

Typically Offered
Fall, Spring

DIGME 137 - Fundamentals of Visual Communication

Credits: 3

An examination of the elements of visual design essential to communication with digital technology. Topics include design elements, color theory, graphics creation and optimization, and multimedia. Students receive hands-on

experience with the elements and principles of visual literacy and working with 2-D organization.

Repeat for Credit
N

Requisites
Prerequisite: Experience with PC software.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

DIGME 256 - Digital Literacy

Credits: 3

Effective digital communications using industry standard technologies to create and edit various media including photographs, videos, sound recordings, websites and other forms of print and online media. Students analyze, evaluate and participate in digital culture. Digital publishing topics include media access, censorship, copyright, fair use, mashups and remixes.

Repeat for Credit
N

Requisites
Prerequisite: Experience with PC software.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

DIGME 366 - Visual Communication Studio

Credits: 3-6

Students complete portfolio projects that tie together topics related to visual communications design. Content topics include creating graphics, animations, photographs, videos and other relevant visual elements to be viewed in print and digital formats.

Note
Up to nine hours studio per week.

Repeat for Credit
N

Requisites
Prerequisite: CMST 333

Typically Offered
Fall

DIGME 376 - Digital Rhetoric

Credits: 3

Provides students with the theoretical and applied understanding of how rhetoric works in online environments. Rhetorical strategies employed in media are explored with a close analysis of genre, digital literacy and the basics of design. Topics include new media, genre, digital literacy and rhetoric.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200

Typically Offered
Spring

DIGME 386 - Digital Media Production Studio

Credits: 3-6

Students complete portfolio projects that tie together topics related digital media production. Content topics include digital manipulation of media with audio editing, video editing, and photo editing tools and techniques.

Note
Up to nine hours studio per week.

Repeat for Credit
N

Requisites
Prerequisite: CMST 333

Typically Offered
Spring

DIGME 406 - Social Media

Credits: 3

An exploration of the social media aspects of producing and consuming digital media content; including blogging, podcasting, and vodcasting. Diversity of the human condition is emphasized. Students will develop and publish an online portfolio of their best digital media work.

Repeat for Credit
N

Requisites
Prerequisite: Experience with PC software.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

DIGME 456 - Digital Media Senior Capstone Project

Credits: 3-6

Provides seniors with the capstone experience of developing a professional quality project in digital media. Students work individually or in teams to develop a significant project in their area of interest. Students are expected to apply the production techniques covered in previous digital media courses, write project documentation, and make verbal presentations. Whenever feasible, real-world projects are solicited from local businesses.

Note
Up to nine hours per studio a week.

Repeat for Credit
N

Requisites
Prerequisite: DIGME 386 and senior standing.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

DMP 313 - Introduction To Epidemiology

Credits: 3

This introductory course explores the concepts, methods, and tools of epidemiology; the science of disease occurrence and distribution. Students will learn how epidemiologists or "disease detectives" gather, analyze, and interpret information on the occurrence of infectious, non-infectious, and chronic diseases. Through examples of current and/or controversial health topics, students will develop skills to read, interpret and evaluate health information from published epidemiologic studies.

Repeat for Credit
N

Typically Offered
Fall

DMP 314 - Environmental and Public Health

Credits: 3

This introductory course explores environmental health, the branch of public health that focuses on relationships between the environment and human health and well-being including the promotion of safe communities at the local, regional, national, and global level. Students will explore physical, chemical, biological, social, and psychosocial factors in the environment that impact human health and the ways in which societies create environmental health hazards. Environmental health issues in globalization, industrialization, and environmental justice, in both developed and developing countries will be discussed. Students will understand the roles of public health professionals, government, and non-governmental agencies in communicating, managing, and protecting environmental and public health.

Repeat for Credit
N

Typically Offered
Fall

DMP 610 - Feedlot Health Systems

Credits: 2

Health of cattle in a commercial feedyard. Includes health risk assessment, cattle handling, processing, vaccination protocols, identification/treatment of sick cattle, necropsy techniques, using computer data to make management decisions for feeder cattle, other management issues. Discussion of disease syndromes and foreign diseases.

Repeat for Credit
N

Typically Offered
Fall

DMP 611 - Cow-Calf Health Systems

Credits: 2

Management of animal well-being and efficient production in a cow-calf system. Includes the areas of health, growth, nutrition, pharmaceutical management, and reproduction.

Repeat for Credit
N

Typically Offered
Fall

DMP 650 - Fundamentals of Public Health and Food Safety

Credits: 3

Organization and function of food inspection services; principles of disease transmission; diseases transmitted to humans through the food chain.

Note
Jointly with HMD 650.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198.

Typically Offered
Fall

DMP 680 - Problems in Pathobiology

Credits: 1-5

Problems in Pathobiology

Note
Enrollment is by consent of the instructor. The format and credit hours for the course are determined by the instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DMP 690 - Essential Practices for BSL-3 Research Settings

Credits: 1

This hands-on laboratory centered course will offer students functional skills training and an in-depth understanding of standard microbiological practices, principles and techniques necessary to safely conduct research in a Biosafety Level-3 setting. Trainees will be exposed to basic concepts such as: research project design, risk assessment, compliance issues, selection of appropriate methods, and introduction to new technologies based on their specific research project. Concurrent enrollment of DMP 691 Introduction to High Containment Research Topics and Techniques is required.

Repeat for Credit
N

Requisites
Corequisite: DMP 691.

Typically Offered
Fall

DMP 691 - Introduction to High Containment Laboratory Topics and Techniques

Credits: 3

This course examines the rationale behind the skills and techniques taught in DMP 690 Essential Practices for High Containment Research Settings. Students will gain familiarity with the regulatory and operational requirements of high containment facilities and discuss best practices in the laboratory. Students review and discuss scientific readings, case studies, topics, and laboratory techniques appropriate for laboratory work conducted in BSL-3, Animal BSL-3 (ABSL-3), and Large Animal BSL-3 (BSL-3Ag) facilities. This course is designed to complement DMP 690 Essential Practices for High Containment Research Settings.

Repeat for Credit
N

Typically Offered
Summer

DMP 710 - Introduction to One Health

Credits: 2

One Health encompasses the complex interrelationships among humans, animals, and the environment. This online course provides a broad introduction to One Health, incorporating original videos of leading experts, case studies, and scientific readings. It addresses zoonotic diseases and environmental issues that impact human, animal, and ecosystem health.

Repeat for Credit
N

Requisites
Prerequisite: Two courses in biology

Typically Offered
Fall

DMP 725 - GIS (Geographic Information System) Applications in Animal and Public Health

Credits: 2

Explores the relevance/benefits of applying GIS (Geographic Information System) and the concept of spatial thinking in animal/public health research and practice. Health relevant GIS concepts and terminologies, nature and sources of geospatial data, their manipulation methods in a GIS environment, and spatial analysis techniques will be presented.

Repeat for Credit
N

Requisites
Prerequisite: GEOG 508, GEOG 605 are recommended.

Typically Offered
Fall, Spring

DMP 726 - GIS (Geographic Information System) Applications in Animal and Public Health Lab

Credits: 1

Through hands-on laboratory exercises different technical methods of applying GIS for health data analysis, spatial analytical methods, model building, cartographic principles and geographic visualization are explored.

Repeat for Credit
N

Requisites
Prerequisite: DMP 725 is required.

Typically Offered
Fall, Spring

DMP 754 - Introduction to Epidemiology

Credits: 3

The purpose of this course is to introduce students to the basic principles and methods of epidemiology in order to recognize and understand how disease affects populations (and the associated implications for individuals). This course will prepare students to use epidemiologic methods to solve current and future challenges to diagnose, treat, prevent, and control disease during their professional training and throughout their career.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
MPH 754

DMP 770 - Emerging Diseases

Credits: 3

An investigation into recently identified emerging diseases, the conditions that enable their emergence, and the human health implications of each disease.

Note
This class is open to all students with some biology background, as well as veterinary students.

Repeat for Credit
N

Requisites
Prerequisite: 3 hours of Biology above a 700 level.

Typically Offered
Summer

DMP 802 - Environmental Health

Credits: 3

This is a three-credit graduate-level course. Students will be exposed to professional practice of environmental sciences, epidemiology, toxicology, occupational health and industrial hygiene, and consumer health and safety. Topics include the methods for defining environmental contamination; identifying contaminants, pathogens and toxins; assessing risks and causality; determining health impact; ameliorating hazards; and protecting the population through waste management, regulatory programs, environmental inspections, food and product safety, and environmental policy. Participation is required.

Repeat for Credit
N

Typically Offered
Spring, Summer

DMP 810 - Cancer Pathogenesis

Credits: 2

This lecture will meet once a week for 2 hours per period. The first hour of each meeting will consist of brief student presentations of research papers illustrating key concepts presented in the previous lecture. The second hour of each meeting will consist of a lecture on the indicated topic.

Repeat for Credit
N

Typically Offered
Fall-Even Years

DMP 813 - Select Agent Studies

Credits: 3

This course provides an in-depth study of select agent regulations and guidance. Specific topics include a historical overview of select agent regulations, program rationales, tier one regulations, personnel suitability assessments, inventory systems and oversight. Additional content will look outside the select agent program and address other regulations and guidelines which impact high-containment research such as Dual-Use regulations and the NIH Guidelines for Recombinant DNA. The course will also introduce students to specific agents covered under the select agent program, and review characteristics and research considerations when working with these agents.

Repeat for Credit
N

Typically Offered
Summer

DMP 814 - Veterinary Bacteriology & Mycology Lecture

Credits: 3

Veterinary Bacteriology and Mycology, is designed to provide graduate students in pathobiology or related field with basic knowledge of bacteria, fungi and the diseases that they cause primarily in animals. The course is also designed to provide latest information of the pathogenic mechanisms, virulence factors, antigenic nature, zoonosis and disease transmission, treatment and prevention.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 255.

Typically Offered
Spring

DMP 815 - Multidisciplinary Thought and Presentation

Credits: 3

Training in critical thinking, writing, and speaking for the food, veterinary, plant, health, and related sciences. With emphasis on writing, students prepare technical reports, news releases, abstracts, and commentaries. Students prepare meeting agendas and present seminars. Committed students will emerge with enhanced critical-thinking and written-presentation skills.

Repeat for Credit
N

Typically Offered
Fall, Spring

DMP 816 - Trade and Agricultural Health

Credits: 2

This course considers the multilateral trading system as it relates to food safety, food security, animal health, plant health, and international cooperation. The course content will be of value to students interested in food safety and security, epidemiology, public health, agriculture, food science, security studies, political science, agricultural economics, veterinary medicine, and international relations.

Repeat for Credit
N

Typically Offered
Spring

DMP 817 - Principles of Veterinary Immunology

Credits: 3

Innate and adaptive defense mechanisms in domestic animals. Topics include vaccinology, immunopathology, autoimmunity, immunodeficiency, and immunomodulation.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 521 and BIOL 255.

Typically Offered
Spring

DMP 818 - Veterinary Epidemiology

Credits: 2

Introduction to the principles and methods of veterinary epidemiology: emphasizing how diseases affect populations (and associated implications for individuals), and application to disease diagnosis, treatment, prevention, and control.

Repeat for Credit
N

Typically Offered
Spring

Cross-listed
MPH 708

DMP 820 - Rumen Metabolism

Credits: 3

Metabolism, absorption, digestion, and passage of nutrients in the rumen; factors affecting the environment of the rumen; certain aspects of rumen function and dysfunction; techniques used in rumen research.

Note
Three one-hour lectures a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 218 and BIOCH 521 or BIOCH 755.

Typically Offered
Fall-Odd Years

DMP 821 - Advanced Clinical Pathology Laboratory

Credits: 1

Practical training in advanced techniques of clinical chemistry and hematology used in a large clinical pathology laboratory.

Note
Three hours lab per week.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

DMP 830 - Quantitative Analysis in Veterinary Medicine

Credits: 3

Practical experience managing, describing, and interpreting data from animal health and management systems so that the data can be informative for decision-makers evaluating and implementing health programs, diagnostic strategies, and animal management processes.

Repeat for Credit
N

Typically Offered
Fall

DMP 831 - Veterinary Virology

Credits: 3

Morphology, biology, and classification of viruses and their relation to the causes of disease.

Veterinary Virology is a 3 credit lecture course that is designed for veterinary students in the second year of the professional curriculum. The course provides basic and fundamental knowledge on the classification, pathogenesis, and diagnosis of viral pathogens affecting common veterinary species, including ovine, caprine, feline, canine, equine, bovine, avian, and porcine species. In addition, the course is designed to provide adequate knowledge and training for veterinarians in practice on the prevention and management of these viral diseases.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: DMP 817.

Typically Offered
Spring

DMP 832 - General Pathology

Credits: 4

Etiology, pathogenesis, lesions, and termination of processes of disease, including inflammation, necrosis, regeneration, oncology, and disturbances of metabolism, circulation, and growth.

Note
Three hours lecture and four hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AP 806, AP 816 and AP 810.

Typically Offered
Fall

DMP 834 - Veterinary Parasitology

Credits: 4

Study of the helminth, arthropod, and protozoan parasites of companion and food animals. Emphases are on diagnosis, clinical signs, lesions, treatment, control epidemiology, and public heath aspects of parasitic disease.

Repeat for Credit
N

Requisites
Prerequisite: AP 810, AP 804, AP 818 and DMP 817 & DMP 818. Must be 2nd yr student in the Veterinary Curriculum.

Typically Offered
Fall

DMP 840 - Public Health Practice

Credits: 3-6

Supervised field experience in an international, state, local, or district health agency or other appropriate health agency.

Repeat for Credit
Y

Requisites
Prerequisite: Enrollment in MPH Program.

Typically Offered
Fall, Spring, Summer

Cross-listed
KIN 840, FDSCI 840, FNDH 840, MPH 840

DMP 841 - Veterinary Public Health

Credits: 2

The linkages between human health and animal health and production. Topics include zoonotic disease, emerging and exotic animal diseases, disaster preparedness, regulatory and community health issues focusing on the role of the veterinarian in all.

Note
Two hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: DMP 818.

Typically Offered
Spring

DMP 844 - Global Health Issues

Credits: 3

A review of global health problems and various strategies to manage international health concerns. The class is open to graduate students, including veterinary students, with an interest in public health that have at least 12 hours in biology or related courses.

Repeat for Credit
N

Typically Offered
Fall

DMP 845 - Food Safety Risk Analysis

Credits: 3

Three hours of lectures on interwoven roles of risk assessment, management and communication – defined as risk analysis – will be applied to problems and policy development in food safety. This course will aid students in developing the ability to critically examine food safety risk issues from various stakeholder perspectives, leading to risk management and communication activities to reduce the impact of foodborne disease.

A significant portion of the course will focus on the importance of thorough research and good communication skills, as well as the suitability of communication efforts. The course will be presented through lectures, case study presentations, and Internet-based support material including text, audio and video through the extensive database maintained by Dr. Douglas Powell of Kansas State University and colleagues (foodsafety.ksu.edu; barfblog.com).

Repeat for Credit
N

Typically Offered
Spring

DMP 846 - Foundations of Biosecurity

Credits: 3

The course examines the biosecurity policies and procedures required in high and maximum-containment research facilities. It provides a historical perspective of biosecurity, establishes definitions and explores concepts related to personnel, governmental and contemporary biosecurity topics. Agro-security topics are highlighted providing a perspective on risk and threat assessment to public health and institutional, local, regional, national and global threats.

Repeat for Credit
N

Typically Offered
Summer

DMP 850 - Immunology of Domestic Animals

Credits: 3

This course is designed to introduce graduate students to immune responses of domestic animals to pathogens and parasites.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 541.

Typically Offered
Fall

DMP 852 - Vaccinology

Credits: 3

Multidisciplinary course on vaccine development (including technology) from conceptualization through development, testing, and utilization. Addresses the principles of pathogenesis of infectious diseases, immune protection, and eliciting protective immunity by vaccination; application of traditional and new technologies to vaccine development;

principles of preclinical development, manufacturing, and clinical evaluation; importance of the regulatory process; and utilization of epidemiology to measure vaccine need and effectiveness.

Repeat for Credit
N

Typically Offered
Spring, Summer

Cross-listed
AAI 852

DMP 854 - Intermediate Epidemiology

Credits: 3

Epidemiologic principles of disease with a focus on measures of disease occurrence, association and impact, determinants of disease diagnostic test evaluation, study design and critical literature evaluation.

Repeat for Credit
N

Requisites
Prerequisite: DMP 708 or DMP 754 or equivalent AND STAT 701 or STAT 703 or DMP 830 or equivalent.

Typically Offered
Spring

Cross-listed
MPH 854

DMP 855 - Disease Detection, Surveillance and Risk Assessment

Credits: 3

The course is focused on understanding the principles underlying quantitative risk assessments and disease detection/surveillance systems suited to a variety of animal health and food safety applications. These will then be used to advance the practical application of risk assessment and disease detection in the development of valid and useful herd, regional and national disease surveillance programs.

Repeat for Credit
N

Typically Offered
Fall

DMP 856 - Advanced Veterinary Parasitology

Credits: 3

Structure, life cycle, pathology, immunology, public health significance, diagnosis, and treatment of protozoan and metazoan parasites of veterinary significance.

Note
One hour lecture, one hour recitation, and four hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: DMP 718

Typically Offered
Spring-Odd Years

DMP 857 - Systemic Pathology

Credits: 5

Pathology of the organ systems of domestic animals including gross and microscopic study of lesions.

Note
Three hours lecture and six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: DMP 832.

Typically Offered
Spring

DMP 858 - Introduction to Infectious Disease Modeling for Animal Health

Credits: 3

This is a graduate-level course focused on understanding and implementing infectious disease models using Excel and Monte-Carlo Statistical Methods as well as Spatially Explicit Stochastic models. The course is focused on food animal diseases using a mixture of lecture, scientific

literature evaluation, discussion and hands on computer lab exercises.

Repeat for Credit
N

Requisites
Prerequisite: DMP 854 Intermediate Epidemiology.

Typically Offered
Other

DMP 859 - Surgical Pathology

Credits: 1-2

Practical experience in examining and processing surgical biopsy specimens and writing histopathological reports.

Note
Three or six hours lab per week.

Repeat for Credit
Y

Requisites
Prerequisite: DMP 852.

Typically Offered
Fall, Spring, Summer

DMP 860 - Bacterial Pathogenesis and Host Response

Credits: 3

Virulence factors of infectious microorganisms and the host response to infection. Topics include pathogenesis of human and animal diseases and mechanisms of immunity.

Repeat for Credit
N

Requisites
Prerequisite: DMP 812

Typically Offered
Fall-Even Years

DMP 861 - Advanced Diagnostic Pathology

Credits: 3

Pathologic alterations of disease with emphasis on diagnostic characteristics.

Note
Nine hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: DMP 852.

Typically Offered
Fall, Summer

DMP 862 - Applied Domestic Animal Immunology

Credits: 2

Real-life immune problems of veterinary and zoonotic relevance and their application to domestic animal immune systems.

Note
One 1-hour lecture and one 1-hour discussion per week.

Repeat for Credit
N

Requisites
Prerequisite: DMP 850, DMP 705 or an immunology course in a veterinary curriculum.

Corequisite: Interested students who might not meet the enrollment prerequisite can contact the course coordinator to request permission to enroll.

Typically Offered
Other

DMP 863 - Advanced Principles of Pathology

Credits: 3

Disease and its effects with emphasis on etiology and pathogenesis; morphologic change will be correlated with changes in chemical composition and function.

Note
Two hours lecture and three hours lab per week.

Repeat for Credit

N

Requisites
Prerequisite: DMP 720.

Typically Offered
Fall

DMP 867 - Advanced Topics in Comparative Pathology

Credits: 1-3

Selected topics to assist pathology majors in their area of specialization.

Repeat for Credit
Y

Requisites
Prerequisite: DMP 852 and DMP 863.

Typically Offered
Fall, Spring, Summer

DMP 870 - Pathobiology Seminar (MS)

Credits: 1

Oral presentations on topics in epidemiology, food safety, immunology, microbiology, molecular biology, parasitology, pathology, and toxicology. Reports will include critical review of the relevant literature; experimental design and methodology; and presentation and critical evaluation of data. The course is for MS students.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DMP 871 - Molecular Diagnostics of Infectious Diseases

Credits: 3

This graduate course is aimed at reviewing, and evaluating new and improved molecular diagnostic methods for infectious diseases. Theory, development, and applications of molecular diagnostic tests will be discussed in the context of current literature. This course will provide an opportunity for students to learn and apply recent advances in the development of molecular diagnostic test.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 521
Students without the prerequisites must have the permission of the course coordinator.

Typically Offered
Fall-Odd Years

DMP 878 - Applications of Flow Cytometry

Credits: 1-3

Theory and practical experience in the use of flow cytometry in diagnosis and research.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall, Spring, Summer

DMP 880 - Problems in Pathobiology (MS)

Credits: 1-6

A special problems course for graduate students working toward the MS degree in Pathobiology. The course is generally problems- or techniques-based in any of the disciplines in the Pathobiology program, conducted under the supervision of a graduate faculty in the Pathobiology Graduate Program.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DMP 888 - Globalization, Cooperation, & the Food Trade

Credits: 1

This course will focus on issues and topics including, but not limited to, disputes in the international agricultural and food trade, new concepts such as Food and Agriculture Security, and the food-related challenges faced by wealthy as well as economically poor societies. The course will also address such important topics as the roles played by innovation and investment in the agricultural and food system, the importance of cross-border cooperation in regulation and trade, and the accomplishments of public health and trade policy thought leaders across history.

Repeat for Credit
N

Typically Offered
Fall, Spring

DMP 893 - Principles of Biosafety and Biocontainment

Credits: 2

This course will introduce participants to the advanced and administrative principles of biosafety and biocontainment. The course targets future P.I.'s, lab managers, and individuals with previous high-containment research experience. Specific topics include laboratory biosafety levels, special considerations for agriculture and animal labs, facility and building design, regulations, biosafety practices and procedures, and risk assessment processes required in high and maximum containment research facilities.

Repeat for Credit
N

Requisites
Prerequisite: DMP 690 and DMP 691 or instructor permission.

Typically Offered
Summer

DMP 895 - Topics in Pathobiology (MS)

Credits: 0-18

A special course for graduate students working toward the MS degree. Lectures, readings, and discussion of topics of current interest in any of the disciplines of Pathobiology.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DMP 898 - MS Report in Pathobiology

Credits: 2

A written report of either laboratory-based research, field-based research, or a review paper on a topic in the major field.

Repeat for Credit
N

Requisites
Prerequisite: Consent of the major professor

Typically Offered
Fall, Spring, Summer

DMP 899 - MS Research in Pathobiology

Credits: 0-18

For graduate students working towards the MS degree. Individual research in the fields of epidemiology, food safety, immunology, microbiology, molecular biology, parasitology, pathology, and toxicology.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DMP 910 - Pathogenic Mechanisms of Viruses

Credits: 3

The goals of the course are to learn various pathogenic mechanisms (virus-host interactions) of selected virus (RNA and DNA) and Prion diseases. The course will cover the molecular, cellular and immunological bases of pathogenesis both in vitro and in animal models.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 730 and BIOL 670.

Typically Offered
Spring-Even Years

DMP 925 - Rumen Microbiology

Credits: 3

Lecture dealing with the microorganisms of the rumen, their habitat, diversity, structure, interactions, and biochemical activities. Techniques for enumeration, isolation and identification of ruminal microorganisms.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 255.

Typically Offered
Fall-Even Years

DMP 954 - Advanced Epidemiology

Credits: 4

Advanced theory and methods for designing, analyzing and interpreting epidemiologic research. Emphasis on observational study design and analysis issues including design identification and optimization, bias recognition and control, and appropriate analytical approaches for epidemiologic data.

Repeat for Credit
N

Requisites
Prerequisite: DMP 854 and STAT 717, or equivalent training (recommended).

Typically Offered
Fall

DMP 963 - Advanced Molecular Biology of Foodborne Pathogens

Credits: 2

This lecture will meet once a week for 2 hours per period. The first hour of each meeting will consist of brief student presentations of research papers illustrating key concepts presented in the previous lecture. The second hour of each meeting will consist of a lecture on the indicated topic.

Repeat for Credit
N

Typically Offered
Fall-Odd Years

DMP 965 - Cellular and Molecular Pathology

Credits: 4

Biochemistry of the injured cell, relationship of intracellular parasitism to cellular metabolism, metabolic and genetic basis of inherited disease.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 755 or BIOL 860.

Typically Offered
Spring

DMP 970 - Pathobiology Seminar (PhD)

Credits: 1

Oral presentations on topics in epidemiology, food safety, immunology, microbiology, molecular biology, parasitology, pathology, and toxicology. Reports will include critical review of the relevant literature; experimental design and methodology; and presentation and critical evaluation of data. The course is for PhD students.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DMP 971 - Seminal Papers in Molecular Biology

Credits: 1

This discussion course will improve graduate student communication, scientific reasoning, and data analysis skills. Students will gain familiarity with the seminal papers of molecular biology that resolved key issues of the central dogma. Key breakthroughs in molecular evolution, microbial genetics, and biotechnology will be discussed.

Repeat for Credit
N

Requisites
Prerequisite: BIO 670, DMP 712, or DMP 860. Should be registered as an M.S. or Ph.D. student in Veterinary Medicine, biochemistry or biology.

Typically Offered
Summer

DMP 980 - Problems in Pathobiology (PhD)

Credits: 1-6

A special problems course for graduate students working toward a PhD degree in Pathobiology. The course is generally problems- or techniques-based in any of the disciplines in the program, conducted under the supervision of a graduate faculty in the Pathobiology Graduate Program.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DMP 995 - Topics in Pathobiology (PhD)

Credits: 0-18

A special course for graduate students working toward the PhD degree. Lectures, readings, and discussion of topics of current interest in any of the disciplines of Pathobiology

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

DMP 999 - PhD Research in Pathobiology

Credits: 1-18

For graduate students working towards the PhD degree in pathobiology. Individual research in the fields of epidemiology, food safety, immunology, microbiology, molecular biology, parasitology, pathology, and toxicology.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ECE 210 - Introduction to Electrical Engineering

Credits: 3

Basic circuit theory including voltage, current, Kirchoff's laws, and Ohm's law. Introduction to circuit elements, application circuits, complex impedance and power, and additional theory fundamental and the EE curriculum. Includes laboratory work (e.g., with multimeters and oscilloscopes) and circuit construction techniques.

Note
Two hours lecture and 2 hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: MATH 220.

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences

ECE 241 - Introduction to Electrical and Computer Engineering

Credits: 3

An introduction to embedded systems and DC circuitry. Embedded systems focusing on the C programming language, number systems, and data/logical operations. DC circuitry focused on basic circuit theory including voltage, current, ohm's law, and basic circuit components. Includes laboratory work (e.g., with multimeters and oscilloscopes) and circuit prototyping.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

ECE 410 - Circuit Theory I

Credits: 4

An introduction to linear circuit theory; analysis of linear circuits containing resistance, inductance, and capacitance. Mutual inductance and transformers.

Note
Three hours lecture and two hour of lab a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 221

Typically Offered
Fall, Spring

ECE 431 - Microcontrollers

Credits: 3

Architecture, assembly language programming, serial and parallel input/output, interface circuits, and applications.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 241; and CIS 200 or CIS 209.

Typically Offered
Fall, Spring

ECE 441 - Design of Digital Systems

Credits: 3

Design of combinational and sequential systems including asynchronous circuits; testing of digital systems. Emphasis is placed on hardware description languages, computer-aided design tools, and simulations.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 241

Typically Offered
Fall, Spring

ECE 497 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research projects.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ECE 499 - Honors Research in Electrical and Computer Engineering

Credits: 1-18

Individual research problem selected with approval of faculty advisor. Open to students in the College of Engineering honors program. A report is presented orally and in writing during the last semester.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ECE 502 - Electronics Laboratory

Credits: 2

Design, simulation, construction and testing of electronic circuits.

Note
One hour lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 511 and ECE 526.

Typically Offered
Fall, Spring

ECE 511 - Circuit Theory II

Credits: 4

Time-domain transient response of second-order circuits. Circuit analysis using Laplace transforms. Frequency response, filters, transfer functions, two-port networks, and convolution.

Note
Three hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 340 and ECE 410.

Typically Offered
Fall, Spring

ECE 512 - Linear Systems

Credits: 3

Time- and frequency-domain analysis of signals and systems. Concepts include signal classification, convolution, Fourier series, Fourier transforms, filters, signal sampling, and discrete transforms.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 410 or ECE 519, MATH340, and ECE 540.

Typically Offered
Fall, Spring

ECE 519 - Electric Circuits for Engineers

Credits: 3

Principles of direct-current circuits, alternating-current circuits, analog and digital electronics.

Note
Three hours lecture a week. Not open to EE/CMPEN students.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 214.

Typically Offered
Fall, Spring, Summer

ECE 525 - Electronics I

Credits: 3

Fundamentals of electronic components (e.g., diodes, MOSFETs, BJTs, op amps) and electronic circuits.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 410 or ECE 519.

Typically Offered
Fall, Spring

ECE 526 - Electronics II

Credits: 3

Continuation of Electronics I, with emphasis on performance measures, including frequency response. Additional topics include Miller's theorem, cascoding, and the application of negative feedback.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 511 and ECE 525.

Typically Offered
Fall, Spring

ECE 530 - Control Systems Design

Credits: 3

Modeling, analysis, and design of control systems. Topics include feedback control; time response and stability of dynamic systems; introduction to root locus and frequency response design.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 340 and ECE 512.

Typically Offered
Fall, Spring

ECE 540 - Applied Scientific Computing for Engineers

Credits: 3

Mathematical and programming techniques for solving various classes of numerical problems. General topics, such as the precision of floating point numbers are also discussed. Statistics, linear algebra and optimization are the primary classes of numerical problems addressed.

Repeat for Credit
N

Requisites
Prerequisite: STAT 510 and CIS 209 or CIS 200.

Typically Offered
Fall, Spring

ECE 542 - Computer Networking

Credits: 3

Introduction to application, transport, network and link layer protocols, with emphasis to Internet TCP/IP protocols.

Note
Three hours lecture/week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 241, STAT 510

Typically Offered
Fall

ECE 557 - Electromagnetic Theory I

Credits: 4

Vector analysis, electrostatics, magnetostatics, Faraday's Law, Maxwell's Equations, transmission line analysis, plane waves, Poynting's theorem, and applications.

Note
Four hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 214, ECE 410, and MATH 222.

Typically Offered
Fall, Spring

ECE 571 - Introduction to Biomedical Engineering

Credits: 3

Overview of engineering applied to clinical medicine and the life sciences. Topics include sensors and instrumentation to acquire physiologic data, imaging techniques, biomechanics, health care information technology, assistive technology, telemedicine, home care, emergency services, battlefield medicine, and biomedical career opportunities.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 222 and PHYS 214.

Typically Offered
Spring

ECE 581 - Energy Conversion I

Credits: 3

Three-phase systems, magnetic circuits, transformers, and DC and AC machines.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 410 or ECE 519.

Typically Offered
Fall, Spring

ECE 590 - Senior Design Experience I

Credits: 3

Integrates communications, both verbal and written, with ethics and a collaborative design project to emulate a technical professional environment. Introduces design theory, project management, team dynamics, and socio-economic context to design.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 525 and ECE 540

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

ECE 591 - Senior Design Experience II

Credits: 2

Second semester of the senior design experience that implements and demonstrates the project design begun in ECE 590. It includes oral presentations for design reviews and technical documentation such as Project Plan, Concept of Operations, Analyses, Architecture and Requirements, Design Descriptions, and User Manual.

Note
Two hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 590.

Typically Offered
Fall, Spring

ECE 624 - Power Electronics

Credits: 3

Design and analysis of semiconductor-based circuits such as AC-DC converters (rectifiers), DC-DC converters and DC-AC converters (inverters), and their applications in adjustable speed motor-drives, power supplies, and renewable energy conversion systems.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 511, ECE 525.

Typically Offered
Fall

ECE 628 - Electronic Instrumentation

Credits: 3

Applications of electronics in the design of analog and digital systems for the measurement of physical variables and in the transduction of these variables into a useful form for both recording and control.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit

N

Requisites
Prerequisite: ECE 502 and ECE 526.

Typically Offered
Fall, Spring

ECE 631 - Microcomputer Systems Design

Credits: 3

Design and engineering application of 32-bit microcomputers to instrumentation and control. Investigate the relationship of the C language and assembly language. Timing and other interfacing problems will be covered.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CIS 308 or CIS 209 or ME 400; ECE 431; ECE 525 or ECE 519.

Typically Offered
Spring

ECE 632 - Hardware Security Attack Techniques and Countermeasures

Credits: 3

Exploration and approaches to address security vulnerabilities, execute attacks, and implement countermeasures against specific hardware attacks. Topics includes reverse-engineering, counterfeiting/cloning, side-channel attacks, fault injection, and physical tampering (e.g., hardware Trojans, mod-chip).

Repeat for Credit
N

Requisites
Prerequisite: ECE431 and ECE441

Typically Offered
Spring

ECE 633 - Real-Time Embedded Systems

Credits: 1

Interconnection of peripherals, such as CAN networks, DA/AD converters, and Timers. Implementation of device drivers on top of micro-kernels. Build a simple real time distributed embedded system.

Note
Two hours lecture and three hours lab a week. Course meets in one contiguous block of five weeks.

Repeat for Credit
N

Requisites
Prerequisite: CIS 621 and CIS 622.

Typically Offered
Fall

ECE 641 - Advanced Digital Design using Logic Synthesis

Credits: 3

Applications of hardware description languages (HDLs) for the design of complex digital systems. Topics include designing and simulating using HDLs, logic synthesis into FPGAs and ASICs, optimization techniques, timing issues, hardware verification, and design for testability.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 441.

Typically Offered
Spring

ECE 643 - Computer Engineering Design Lab

Credits: 3

The Design and construction of simple I/O devices and a microcomputer system using simple to complex programmable devices.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CIS 308 or CIS 209; and ECE 441.
Prerequisite or concurrent enrollment: ECE 649.

Typically Offered
Fall

ECE 645 - Digital Electronics

Credits: 3

Design of high-performance digital electronics and systems. Topics include design metrics, device modeling, transmission-line models for wiring, signaling conventions, transmitter and receiver circuits, noise analysis and management, power distribution, timing and synchronization techniques.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 525, and ECE 441.

Typically Offered
Spring

ECE 647 - Digital Signal Processing

Credits: 3

Difference equation characterization of digital signal processing systems, transient and steady-state analysis of digital filters using the Z-transform, spectral analysis of digital signals, and design and implementation of digital filters.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 512

Typically Offered
Fall, Spring

ECE 648 - Multimedia Compression

Credits: 3

Introduction to multimedia creation and representation. Design of multimedia systems, which incorporate audio, image and video. Topics will include the analysis and design of multimedia compression, streaming, delivery, security and authoring. Emphasis will be placed on current multimedia standards and applications.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 512 or MATH 551; CIS 308 or CIS 209.

Typically Offered
Spring

ECE 649 - Computer Design I

Credits: 3

Concepts of computer design. Information representation, instruction sets and addressing modes. Arithmetic and logic unit design for fixed and floating point operations. Hardwired and microprogrammed control design. Concepts of pipelining, CISC and RISC architecture. Memory system design including virtual memory, caches and interleaved memories. I/O design methods, interrupt mechanisms, DMA and system integration.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 441.

Typically Offered
Fall, Spring

ECE 660 - Communication Systems I

Credits: 3

Introduction to the analysis and design of analog and digital communication systems. Topics include analog and digital modulation schemes, digital encoding of messages, mathematical modeling of communications systems, noise in communication links and calculation of performance measures for practical links.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: ECE 512.

Typically Offered
Spring

ECE 661 - Communication Systems II

Credits: 3

Error-correction code design and analysis with emphasis on block and convolutional coding and decoding; Trellis-coded modulation. Modeling of bandlimited systems and pulse-shape design, optimal receiver design for bandlimited systems, linear and nonlinear equalization. Multiple-access techniques, orthogonal frequency-division multiplexing and receiver design for CDMA schemes. Simulation of practical digital transmission systems.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 660.

Typically Offered
Spring

ECE 662 - Design of Communication Circuits

Credits: 3

The design of communication circuits and systems operating from baseband to UHF frequencies. Topics include tuned-RF amplifiers, oscillators, mixers, LC and ceramic bandpass filters, and demodulators. Projects involve the design and performance testing of a complete radio receiver.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 502 and ECE 526.

Typically Offered
Fall

ECE 670 - Engineering Applications of Machine Intelligence

Credits: 3

Study of machine intelligence and fuzzy logic concepts and applications in engineering problem domains. As a term project, develop a fuzzy expert system for a specific problem domain that runs on a personal computer and develop the supporting documentation.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CIS 200 or CIS 209, and PHYS 214.

Typically Offered
Spring

ECE 681 - Wind and Solar Engineering

Credits: 3

Wind and solar energy resource assessment, operation of renewable-energy systems, photovoltaic and wind-turbine physics, and design of complete systems.

Note
Three hours recitation a week.

Repeat for Credit

N

Requisites
Prerequisite: ECE 525 or ECE 519.

Typically Offered
Fall

ECE 684 - Power Laboratory

Credits: 3

Introduction to energy and power converters. Course includes lecture and laboratory experience in aspects of modeling and analysis of electric machines (synchronous and induction machines as well as transformers), power quality (harmonic measurement), control of DC-DC and DC-AC converters, and motor-drive systems.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 624 and ECE 581.

Typically Offered
Spring

ECE 685 - Power Systems Design

Credits: 3

A comprehensive study of modeling of the electric power system components and computer simulation of interconnected power systems in steady state. Vector-matrix descriptions are emphasized.

Note
Three hours of recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 581.

Typically Offered
Fall

ECE 686 - Power Systems Protection

Credits: 3

Analysis of symmetrical and unsymmetrical faults on power systems using symmetrical components technique. Study of protective relaying for protection of power systems against faults. Vector-matrix descriptions and computer solutions are emphasized.

Note
Three hours of recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 581.

Typically Offered
Spring

ECE 690 - Problems in Electrical and Computer Engineering

Credits: 1-18

Problems in Electrical and Computer Engineering

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ECE 694 - Optoelectronics

Credits: 3

Applied geometric and physical optics, optical radiation, and the interaction of light and matter. The theory and application of photodetectors, lasers, and other photoemitters. Introduction to fiber optical waveguides, sensors, and systems.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 525, ECE 557, and CHE 356.

Typically Offered
Fall

ECE 696 - Integrated Circuit Design

Credits: 3

Study of silicon integrated circuits with emphasis on CMOS analog and digital applications. The course covers basic device structure and modeling, circuit analysis, system design, IC design methodology and economics plus IC fabrication processes. Computer-aided tools are used to simulate and layout circuits designed by student groups.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 241 and ECE 525.

Typically Offered
Fall

ECE 715 - Electroacoustics

Credits: 3

Basic principles of sound; modeling of, and analogous circuits for, mechanical and acoustical systems; microphones and loudspeakers; Thiele-Small parameters; the analysis and design of, and measurements on, common loudspeaker systems and crossover networks. Projects involve the design, simulation, construction and performance-testing of a complete loudspeaker-and-enclosure system.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 511.

Typically Offered
Fall

ECE 722 - Audio Engineering

Credits: 3

Solid-state and hollow-state analog electronics applicable to high-fidelity audio. Emphasis is on the analysis, design and construction of audio amplifiers. Projects include design, implementation, and performance-evaluation of a reference-quality audio power amplifier.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 525. Recommended prerequisite: ECE 526.

Typically Offered
Spring

ECE 724 - Analog Electronics

Credits: 3

Analysis, design, and evaluation of BJT and CMOS operational amplifiers. Core topics include frequency compensation and closed-loop stability, slew-rate optimization, wide-bandwidth design, low-noise design, and macromodeling for simulation.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 502, ECE 526.

Typically Offered
Spring

ECE 725 - Integrated Circuit Devices and Processes

Credits: 3

Integrated circuit fabrication processes including oxidation, diffusion, ion implantation, lithography, etching, crystal growth, process monitoring, and device characterization. Design of discrete and IC devices through laboratory experiments and computer simulations.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 525 and CHE 356.

Typically Offered
Spring

ECE 728 - Mixed Signal Measurements

Credits: 3

Signal classification, noise and uncertainty, TRMS conversion, quantization and ADCs, repetitive sampling and signal recovery techniques, vector voltmeters, basic network analyzers.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 512 or graduate standing.

Typically Offered
On sufficient demand

ECE 730 - Control Systems Analysis and Design

Credits: 3

Use of classical analysis techniques for control system compensation. State space control theory fundamentals are presented in addition to an introductory treatment of several major systems areas.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 530 or ME 640; ME 730.

Typically Offered
Spring

ECE 731 - Advanced Microcomputer System Design

Credits: 3

Design and engineering applications of 16 and 32 bit microprocessors. Utilization of peripheral and co-processor chips.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 631.

Typically Offered
Spring

ECE 733 - Real-Time Embedded Systems Design

Credits: 3

Design and implementation of a comprehensive team project of a complete embedded real-time system.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: CIS 721.

Typically Offered
Spring

ECE 736 - Discrete-Time and Computer-Control Systems

Credits: 3

Analysis and design of discrete-time, sampled-data, and computer-control systems using discrete-state equations and Z-transforms.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 530 or ME 640.

Typically Offered
Spring

ECE 746 - Fault Diagnosis in Digital Systems

Credits: 3

Hazards, fault detection in combinational circuits, and sequential machines using path sensitizing and fault-matrix methods, state table analysis, etc.; system reliability through logical redundance.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: ECE 541 or ECE 631.

Typically Offered
Spring-Even Years

ECE 749 - Computer Design II

Credits: 3

Study of alternate computer hardware structures. Investigation of engineering tradeoffs in implementation of alternative instruction sets and computing structures. Emphasis will be placed on a quantitative approach to cost/performance evaluations including simulation of hardware structures.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 649.

Typically Offered
Fall

ECE 758 - Electromagnetic Theory II

Credits: 3

Continuation of ECE 557.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 557.

Typically Offered
On sufficient demand

ECE 760 - Wireless Communications

Credits: 3

This course exposes seniors and first year graduate students to important physical layer concepts in wireless communications. Topics include: cellular architecture, large scale and small scale fading channel models, diversity receivers, DS-CDMA transmitter and receiver design, multi-user detection, multi-carrier CDMA and OFDM performance analysis.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 660.

Typically Offered
Spring

ECE 764 - Antennas and Microwave Circuits

Credits: 3

The design of communication circuits and systems operating at microwave frequencies. Topics include

antennas, transmission lines, microstrip matching networks, S-parameters, frequency synthesizers, and downconverter components such as LNAs, mixers, and microstrip bandpass filters. Projects involve design, simulation with electronic design automation tools, and laboratory measurements.

Note
Two hour lecture and three hour lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 502, ECE 512, ECE 526 and ECE 557.

Typically Offered
Spring

ECE 771 - Control Theory Applied to Bioengineering

Credits: 3

Development of mathematical models used in the study and analysis of physiological control systems providing techniques for varying pertinent biological parameters.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent: ECE 530 or ME 640, and a basic physiology course.

Typically Offered
Spring

ECE 772 - Theory and Techniques of Bioinstrumentation

Credits: 2

Theoretical aspects of biological signals, electrodes, transducers, digital imaging and computer-based data acquisition directed toward ECE and other science department majors.

Note
Two hours recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: Concurrent enrollment in ECE 773 (ECE majors only) and AP 773.

Typically Offered
Fall

ECE 773 - Bioinstrumentation Design Laboratory

Credits: 1

Design and testing of hardware and software for acquiring and analyzing biological signals.

Note
Three hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: ECE 502 and concurrent enrollment in ECE 772.

Typically Offered
Fall

ECE 780 - Power Seminar

Credits: 1

Speakers from industry, academia, and government present topics related to power systems engineering.

Note
One hour lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall

ECE 824 - Advanced Power Electronics

Credits: 3

High-frequency switching dc/dc converters, resonant converters, analysis and control of power electronic systems, and thermal management.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 624.

Typically Offered
Other

ECE 828 - Topics in Instrumentation

Credits: 3

Selected topics related to the general field of electronic instrumentation.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 628.

Typically Offered
On sufficient demand

ECE 830 - Advanced Systems Theory

Credits: 3

State space description and analysis of continuous and discrete time dynamic systems including optimal control solutions. Both linear and nonlinear systems are considered.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 530 or ME 640.

Typically Offered
Fall

ECE 832 - Advanced Hardware Security Attack Techniques and Countermeasures

Credits: 3

Advanced exploration and approaches to address security vulnerabilities, execute attacks, and implement countermeasures against specific hardware attacks. Topics includes reverse-engineering, counterfeiting/cloning, side-channel attacks, fault injection, and physical tampering (e.g., hardware Trojans, mod-chip).

Repeat for Credit
N

Requisites
Prerequisite: ECE431 and ECE441

Typically Offered
Spring

ECE 840 - Computer Engineering Methods for Analysis, Simulation, and Design

Credits: 3

Computer-aided and numerical techniques applicable to problems in electrical and computer engineering. Emphasis is on implementation of these techniques on the computer.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 512.

Typically Offered
Spring

ECE 841 - Network Theory

Credits: 3

Introduction to the theoretical tools, methods and algorithms to analyze networks, investigate their structure, and their behavior and properties, as well as several

practical applications in computer networks, social networks and power grids.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 410 or STAT 510, high-level programming language.

Typically Offered
Fall

ECE 842 - Parallel Processing

Credits: 3

Parallel processing application in signal and image processing. Array processors, pipeline processors, systolic and wavefront arrays, interconnection networks, performance analysis.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 512, ECE 649.

Typically Offered
Fall-Odd Years

ECE 845 - Sequential Machines

Credits: 3

Theory and mathematical framework of digital hardware will be developed. Limitations and fault detection of these machines will be explored using the theoretical basis of sequential machines.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 510 and ECE 649.

Typically Offered
Spring

ECE 846 - Computer Engineering Methods for Analysis, Simulation, and Design II

Credits: 3

Continuation of ECE 840.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 840.

Typically Offered
Fall

ECE 849 - Topics in Computer Engineering

Credits: 3

Selected topics relating to current developments in computer engineering. Topics may include computer architectures, computer networking, multiprocessing, and computer interfaces.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 649.

Typically Offered
On sufficient demand

ECE 855 - Advanced Topics in Electromagnetic Theory

Credits: 3

Mathematical development of electromagnetic wave theory.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 758.

Typically Offered
On sufficient demand

ECE 861 - Applied Probability Theory & Random Processes

Credits: 3

Applications of probability theory, random variables and stochastic processes; tools relevant to both modeling uncertainty and inferencing in the presence of uncertainty; probabilistic methods applicable to problems in electrical and computer engineering arena including power systems, communication systems and networks, biomedical systems, etc.

Note
Three hours lecture a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 512.

Typically Offered
Fall

ECE 866 - Transform Processing of Digital Signals

Credits: 3

Orthogonal transforms in digital signal processing with emphasis on one- and two-dimensional signals, generalized Wiener filtering, feature selection in pattern recognition, and elements of adaptive filtering techniques.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 861.

Typically Offered
Spring

ECE 867 - Digital Image Processing

Credits: 3

Basic concepts and techniques of image formation, representation, analysis, restorations, enhancement, coding, segmentation, and description. Object recognition using shape descriptors and syntactic techniques. Image processing applications in remote sensing, computer vision, and medical diagnosis.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 512.

Typically Offered
Fall

ECE 870 - Neural Networks in Engineering

Credits: 3

Engineering applications of artificial neural networks and machine intelligence. Particular emphasis will be placed on determining appropriate applications of alternate computing approaches and establishing efficient hardware support to implement these computational approaches.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 670.

Typically Offered
Fall-Even Years

ECE 872 - Therapeutic Medical Devices and Systems

Credits: 3

This course will cover: (1) the fundamental principles of electromagnetic energy interactions with biological tissue, and (2) the design and analysis of electromagnetic energy-

based therapeutic medical devices and systems. Topics covered include: tissue-energy interactions; neuromuscular electrical stimulation; rationale and applications of thermal therapy; devices for radiofrequency and microwave hyperthermia; thermal ablation; integration with medical imaging systems.

Repeat for Credit
N

Requisites
Prerequisite: an undergraduate course in electromagnetics (e.g. ECE 557); an undergraduate course in numerical methods/scientific computing (e.g. ECE 540)

Typically Offered
Spring

ECE 881 - Advanced Topics in Electric Energy Systems

Credits: 3

Subjects of current interest such as computer methods, distribution and transmission systems, systems planning and economics, extra high voltage transmission, exotic power sources.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 686.

Typically Offered
On sufficient demand

ECE 882 - Power Quality

Credits: 3

Description, analysis, modeling, and solution of difficulties relating to distortion of the waveshape in alternating-current power systems. Problems of voltage regulation. Focus on harmonics, noise, filtering, and communications interference in power systems.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 624 and ECE 685.

Typically Offered
Fall, Spring

ECE 885 - Power Systems Operation and Control

Credits: 3

Specific topics include economic dispatch, unit commitment, control of generation, power system security, and state estimation. Several analytical and computational techniques are used to solve different problems related to above mentioned topics.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 685.

Typically Offered
Spring

ECE 887 - Distribution System Engineering

Credits: 3

Analysis, design and planning of electric distribution systems. Standard terminologies related to distribution systems are covered.

Note
Three hours recitation per week.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 685.

Typically Offered
Spring

ECE 888 - Power System Stability and Control

Credits: 3

Introduction to power system stability and control. System device modeling and control issues are introduced for the purpose of studying various aspects of power system stability. Transient, small signal, and voltage stability topics are covered. Several stability analysis projects for multimachine systems are included.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 581 and ECE 685.

Typically Offered
Other

ECE 890 - Advanced Electrical Theory

Credits: 1-18

For advanced study in specialized areas by M.S. students.

Repeat for Credit
Y

Requisites
Prerequisite: M.S. student.

Typically Offered
Fall, Spring

ECE 895 - Solid-State Electronic Devices

Credits: 3

Introduction to quantum mechanics, crystal structures, and the semiconductor material properties. Diodes, bipolar transistors, and field-effect transistor structures. Analysis of second-order effects in transistors.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CHE 350, ECE 557, and ECE 696.

Typically Offered
Fall

ECE 896 - Graduate Seminar in Electrical and Computer Engineering

Credits: 0

Presentation and discussion of current advances and research inelectrical and computer engineering. Required of all graduate students in electrical and computer engineering.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ECE 897 - Research in Electrical Engineering

Credits: 1-18

Special research problems in electrical engineering.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ECE 898 - Master's Report

Credits: 1-18

Topics selected with approval of major professor and department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ECE 899 - Master's Thesis

Credits: 1-18

Topics selected with approval of major professor and department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ECE 931 - Advanced Topics in Control Theory

Credits: 3

Study of advanced topics in optimal, time-varying, and stochastic control theory, or other recent developments in the control systems area.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 830.

Typically Offered
On sufficient demand

ECE 949 - Advanced Topics in Computer Engineering

Credits: 3

Selected topics related to advanced computer hardware design, performance measurements, sequential machines, and/ or advanced computer architectures.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 845.

Typically Offered
On sufficient demand

ECE 962 - Advanced Topics in Communications

Credits: 3

Selected topics related to the design and performance analysis of communication systems. Topics may include advanced modulation techniques, optimum receiver design, nonlinear channels, multipath analysis, diversity systems, and others.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 861.

Typically Offered
On sufficient demand

ECE 963 - Detection & Estimation Theory

Credits: 3

Theoretical foundations of detection and estimation theories. Bayesian decision theory with applications to signal detection in discrete time; concept of sufficient statistic and minimum variance unbiased estimation; Bayesian estimation; best linear unbiased estimation; Kalman filtering and its variants; filtering, smoothing and prediction applications across various engineering fields.

Note
Three hours lecture a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 861.

Typically Offered
Spring

ECE 965 - Information Theory

Credits: 3

Information as a measure of uncertainty, zero-memory and Markov sources, coding of information sources, channels and mutual information, reliable transmission via unreliable channels, error correcting codes.

Note
Three hours recitation a week.

Repeat for Credit

Y

Requisites
Prerequisite: ECE 861.

Typically Offered
Fall

ECE 967 - Advanced Topics in Digital Signal Processing

Credits: 3

Selected topics related to adaptive digital filtering techniques; special purpose hardware for digital filtering; two-dimensional signal processing and classification.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 866 or ECE 968.

Typically Offered
On sufficient demand

ECE 968 - Advanced Digital Filtering

Credits: 3

Advanced treatment of the theory of digital filtering and digital signal processing. Emphasis is on analysis of random signals.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 647 and ECE 861.

Typically Offered
Spring

ECE 971 - Advanced Topics in Bioengineering

Credits: 3

Study of complex physiological system simulation and analysis techniques, modern experimental and clinical electronic bioinstrumentation systems. Topics selected according to graduate student's interests.

Repeat for Credit
Y

Requisites
Prerequisite: ECE 771 or ECE 772.

Typically Offered
On sufficient demand

ECE 999 - Dissertation Research

Credits: 1-18

Topics selected with approval of major professor and department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ECED 210 - Introduction to Early Childhood Education

Credits: 3

Examination of the diversity in contemporary early childhood roles and settings, awareness of professional competencies and standards of practice, and recognition of philosophical and historical foundations of the profession.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Historical Perspectives

ECED 300 - Problems in Early Childhood Education

Credits: 1-9

Independent or small group study of early childhood development and education.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
On sufficient demand

ECED 310 - Early Childhood

Credits: 3

Principles of growth and development of children from conception across the early childhood years, including familial, societal, and other ecological factors affecting young children's development.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 110 or PSYCH 110.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Social Sciences

ECED 311 - Infant Toddler Development and Programs

Credits: 3

Study of infants and toddlers from birth through 36 months including physical, cognitive, language, social, and emotional growth and development. Examination of best practices, responsive caregiving techniques, environments, infant/toddler learning approaches, health, safety, and licensing requirements.

Repeat for Credit
N

Requisites
Prerequisites: ECED 310 Corequisites: ECED 312

Typically Offered
Fall

ECED 312 - Infant Observation Lab

Credits: 1

Observation of the behavior and development of children from infancy through toddlerhood.

Note
Negative TB test, Clearance by KBI and DCF

Repeat for Credit
N

Requisites
Corequisite: ECED 310

Typically Offered
Fall, Spring

ECED 313 - Pre-Professional Experiences in Early Childhood Unified

Credits: 1

Observation and participation in diverse early childhood settings serving children with and without disabilities, aged birth through kindergarten.

Note
Negative TB test, Clearance by KBI and DCF. Lab requirement

Repeat for Credit
N

Requisites
Corequisite: ECED 310. Restricted to Early Childhood Education and FCSED majors only.

Typically Offered
Fall, Spring

ECED 420 - Interaction Techniques with Young Children

Credits: 3

A developmental approach to the acquisition of interaction

techniques conducive to healthy emotional and self-concept growth in the child from birth through kindergarten.

Note
Two hours lecture and one hour lab.

Repeat for Credit
N

Requisites
Prerequisite: ECED 310 and ECED 313. Early Childhood Education majors only or instructor permission.

Typically Offered
Spring, Summer

K-State 8
Ethical Reasoning and Responsibility

ECED 428 - Exceptional Development in Early Childhood

Credits: 3

Exceptional development in early childhood (birth through kindergarten), including developmental delays, physical and sensory impairments, communication disorders, mental retardation, learning and behavioral disorders, and health related concerns: emphasis on IEPs and IFSPs and the family's role in the assessment/referral/intervention process.

Repeat for Credit
N

Requisites
Prerequisite: ECED 310.

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.

ECED 450 - Environments in Early Childhood

Credits: 3

Planning, promoting, and maintaining physically and psychologically safe and healthy learning environments for young children. Fostering active, healthy lifestyles and enhanced quality of life for young children through understanding major concepts for nutrition and health education, human movement and physical activity.

Repeat for Credit
N

Requisites
Prerequisite: ECED 310.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility

ECED 451 - Administering Early Childhood Programs

Credits: 3

Acquaints students with the multi-faceted dimensions of the director's work and enables them to acquire the knowledge and develop the skills needed to be successful as an administrator of an early childhood program.

Repeat for Credit
N

Requisites
Prerequisites: ECED 310, ECED 313

Typically Offered
Spring

ECED 466 - Language Development

Credits: 3

Survey of the development of speech and language skills in children.

Repeat for Credit
N

Requisites
Prerequisite: ECED 310.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

ECED 524 - Professional Seminar in Early Childhood Education

Credits: 3

Examination of programs for young children, including philosophical and theoretical foundations. Implementation and evaluation of program models and related issues and research.

Repeat for Credit
N

Requisites
Prerequisite: ECED 310 or PSYCH 280.

Typically Offered
Spring

ECED 528 - Research and Inquiry in Early Childhood Education

Credits: 3

Study and application of fundamental concepts, principles, and methods of educational research in early childhood education with focus on preparing students to become reflective practitioners of action research and critical consumers of research.

Repeat for Credit
N

Requisites
Corequisites: ECED 553 or ECED 554.

Typically Offered
Spring

ECED 530 - Teaching & Learning in Early Childhood Education

Credits: 3

Application of developmental and educational theories to teaching and learning in early childhood education programs serving children aged birth through kindergarten, including children with special needs.

Repeat for Credit
N

Requisites
Prerequisite: ECED 310 and ECED 313. Corequisite: ECED 531.

Typically Offered
Fall, Spring

ECED 531 - Developmental Curriculum in Early Childhood Education

Credits: 3

The planning and application of developmental curriculum across the content areas to enhance the development and learning of young children.

Repeat for Credit
N

Requisites
Prerequisites: ECED 310 and ECED 313. Corequisite: ECED 530.

Typically Offered
Fall, Spring

ECED 542 - Foundations of Coaching Adults

Credits: 3

Introduces coaching in early childhood settings. Special attention is given to adult development and learning theory, mentoring and coaching models, reflective supervision practices, interpersonal skills and the unique needs of early childhood environments.

Repeat for Credit
N

Requisites
Prerequisite: ECED 310

Typically Offered
Spring

ECED 543 - Reflective Practice: Infants and Toddlers

Credits: 3

Application of developmental principles and evidenced-based practice to the diverse learning environments for infants and toddlers with and without special needs across

content areas including the integration of the family and community and public policies that affect programs for young children.

Note
Admission to teacher education required.

Repeat for Credit
N

Requisites
Prerequisite: ECED 540 and ECED 541

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

ECED 544 - Reflective Practice: Preschoolers and Kindergartners

Credits: 3

Application of developmental principles and evidenced-based practice to the diverse learning environments for preschoolers and kindergarteners with and without special needs across content areas including the integration of the family and community and public policies that affect programs for young children.

Repeat for Credit
N

Requisites
Corequisite: ECED 554 and ECED 555 required. Admission to teacher education required.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

ECED 546 - Preschool Lab

Credits: 2

Advanced application of principles and techniques that support the planning, Implementation, and evaluation of early childhood programs for young children.

Note
Negative TB test, Clearance by KBI and DCF

Repeat for Credit
N

Requisites
Prerequisite: ECED 311 and ECED 312 Corequisite: ECED 740

Typically Offered
Spring

ECED 553 - Early Childhood Practicum I: Infants and Toddlers

Credits: 1

Development and implementation of developmentally and functionally appropriate learning experiences, in a variety of formats, addressing content in the areas of early language and literacy, mathematics, science, social studies, the arts, and technology for infants and toddlers.

Note
Admission to teacher education required.

Repeat for Credit
N

Requisites
Corequisite: ECED 543.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

ECED 554 - Early Childhood Practicum II: Preschoolers

Credits: 1

Development and implementation of developmentally and functionally appropriate learning experiences, in a variety of formats, addressing content in the areas of early language and literacy, mathematics, science, social studies, the arts, and technology for the preschool child.

Note
Admission to teacher education required.

Repeat for Credit

N

Requisites
Corequisite: ECED 544.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

ECED 555 - Early Childhood Practicum III: Kindergartners

Credits: 1

Development and implementation of developmentally and functionally appropriate learning experiences, in a variety of formats, addressing content in the areas of early language and literacy, mathematics, science, social studies, the arts, and technology for the kindergarten child.

Note
Admission to teacher education required.

Repeat for Credit
N

Requisites
Corequisite: ECED 544.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

ECED 556 - Early Childhood Practicum 4: Home Visiting

Credits: 1

Development and implementation of developmentally and functionally appropriate experiences, within the context of an individualized family plan, addressing development and content in the areas of early language and literacy, mathematics, science, social studies, the arts, and technology for infants and toddlers in home based settings. Admission to teacher education required.

Repeat for Credit
N

Requisites
Prerequisite: ECED 543. Admission to Teacher Education required.

Typically Offered
Spring

ECED 566 - Emergent Literacy

Credits: 3

Exploration of literacy development from birth through kindergarten, including concepts relevant to pre-emergent, emergent, and developing literacy; procedures for designing developmentally and culturally appropriate experiences; factors impacting literacy acquisition and assessment; and intervention procedures for children at-risk for reading and writing problems.

Note
Restricted to Early Childhood Education majors only.

Repeat for Credit
N

Requisites
Prerequisite: ECED 466.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

ECED 588 - Applied Learning in Early Childhood Programs

Credits: 7

Practical experience working in an early childhood setting with emphasis on program planning and relations with staff and families.

Note
First aid/CPR certification, Negative TB test, Clearance by KBI and DCF

Repeat for Credit
N

Requisites
Prerequisites: ECED 546, Senior standing, and approval of

instructor.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

ECED 597 - Home, School, and Community Partnerships

Credits: 3

Strategies to enhance home-school communication with specific focus on families as the primary decision-makers for young children, with or without special needs. Emphasis on the development of family focused and culturally sensitive collaborations involving parents, schools, and the community to support child development, learning, and well-being.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 250 and ECED 428 or permission of instructor.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

ECED 598 - Student Teaching in Early Childhood Unified

Credits: 9

Design, implementation, assessment of developmentally and individually appropriate evidence-based curriculum for children with and without disabilities birth through kindergarten.

Note
Prearrangement and consent of instructor required.

Repeat for Credit
N

Requisites
Prerequisite: ECED 543, ECED 544, ECED 553, ECED 554, ECED 555 and admission to teacher education.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

ECED 700 - Problems in Early Childhood Education

Credits: 1-6

Independent study of relevant aspects of early childhood development and education.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
On sufficient demand

ECED 704 - Seminar in Early Childhood Education

Credits: 1-6

Interpretation and evaluation of information on varied topics relating to early childhood education and development.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
On sufficient demand

ECED 708 - Topics in Early Childhood Education

Credits: 1-3

Review of recent research and theory related to early childhood education and development.

Note

Consent of School

Repeat for Credit
Y

Typically Offered
On sufficient demand

ECED 710 - Child Care: Components and Issues

Credits: 3

Professional development and leadership; skills, services, and resources supporting quality early childhood care and education.

Repeat for Credit
N

Typically Offered
Summer

ECED 720 - Challenging Behaviors in Early Childhood

Credits: 3

The application of developmental principles and evidence-based practices to design and implement a positive learning environment for young children, including children with disabilities. Creating an environment that supports young children's social emotional competence, teaches social skills, and promotes self-regulation is emphasized.

Repeat for Credit
N

Requisites
Prerequisite: ECED 428.

Typically Offered
Fall

ECED 728 - Assessment of Young Children

Credits: 3

Theory and practice of individual assessment of handicapped and normal children, infancy to age eight, including cognitive, language, fine and gross motor, social, and self-help skills. Focus on selection, administration, interpretation, and evaluation of screening and comprehensive evaluation instruments for assessment and individual program planning.

Repeat for Credit
N

Requisites
Prerequisite: ECED 310, ECED 428, and ECED 531.

Typically Offered
Fall

ECED 730 - Early Childhood Program Administration

Credits: 3

Professional practice and organizational management of early childhood care and education programs; financial and personnel management, program development, and community relations.

Repeat for Credit
N

Requisites
Prerequisite: ECED 450 or consent of instructor.

Typically Offered
Summer

ECED 740 - Play Facilitation

Credits: 3

The emphasis of this course is the empirical study and practice of play as an educational, evaluative, and therapeutic intervention with young children.

Repeat for Credit
N

Requisites
Prerequisite: ECED 531 or consent of instructor.

Typically Offered
Spring

ECED 797 - Home Visiting Programs for Young Children and Families

Credits: 3

Examination of the empirical literature that supports the provision of early intervention and education services to families with young children through a home visitation model; focus on programs that use home visitation; an understanding of the key principles in early intervention; and the development of skills necessary to implement a coaching model of service delivery to enhance family and child outcomes.

Repeat for Credit
N

Requisites
Prerequisites: ECED 543.

Typically Offered
Spring

ECED 810 - Child Development

Credits: 3

Behavioral characteristics and developmental processes in childhood and adolescence. Analysis of developmental trends and issues in terms of research evidence and theoretical expectations.

Repeat for Credit
N

Typically Offered
Fall-Odd Years

ECED 815 - Infant Behavior and Development

Credits: 3

Study of the infant as a developing individual within the family; examination of the theories and research relevant to development from conception through the second year.

Repeat for Credit
N

Typically Offered
Spring-Even Years

ECED 820 - Theories of Human Development

Credits: 3

Theories of development relating to physical, social, and psychological patterns of individuals' growth and interaction with the family and the community.

Repeat for Credit
N

Typically Offered
Fall-Even Years

ECED 830 - Advanced Program Development

Credits: 3

Analysis of the process and application of child development theory to early childhood program planning.

Repeat for Credit
N

Typically Offered
Fall-Even Years

ECED 883 - Practicum in Early Childhood Education

Credits: 1-18

Supervised experience in providing help and/or instruction in the several areas of human development and family studies presented in terms of the special interests of the students. Consent of practicum supervisor is required for each.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ECED 884 - Practicum in Parent Education

Credits: 1-18

Supervised experience in providing help and/or instruction in the several areas of human development and family studies presented in terms of the special interests of the students. Consent of practicum supervisor is required for each.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ECED 894 - Readings in Early Childhood Education

Credits: 1-6

Implications of research findings in preparation for professional work and research in early childhood education.

Repeat for Credit
Y

Requisites
Prerequisite: Twelve hours in social-behavioral science; and consent of instructor.

Typically Offered
Fall, Spring, Summer

ECED 899 - MS Research in Early Childhood Education

Credits: 1-6

Individual research problems which may form the basis for the master's thesis or report.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ECET 100 - Basic Electronics

Credits: 3

A survey course designed to provide an overview of basic direct and alternating current circuits and an introduction to linear and digital electronics. Laboratory exercises reinforce circuit theory and provide skills in the use of common electronic instruments.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Corequisite: MATH 100 or consent of instructor.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ECET 101 - Circuits I

Credits: 4

An introductory course in basic circuit theory emphasizing the analysis of passive circuit networks containing resistance, capacitance, and inductance operating in direct current conditions. Topics include equivalent circuits, network theorems, capacitance, RC-circuit response, inductance, RL-circuit response, and computer simulation.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ETB 102 or ECET 100.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ECET 210 - Linear Circuit Applications

Credits: 4

Analysis and design of analog circuits including differential amplifiers, oscillators, linear and switching power amplifiers, applications of operational amplifiers, advanced semiconductor devices, and heat sinks.

Note
Three hours lecture and two hours lab a week.

Repeat for Credit

N

Requisites
Prerequisite: ECET 110. Corequisite: ECET 201.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ECET 220 - Semiconductor Electronics

Credits: 4

An introductory course in electronic devices. Topics include PN-junction theory, diodes, transistors, transistor biasing, transistor modeling, operational amplifiers, voltage regulators, and field-effect transistors (FET). Additional topics include Miller's Theorem and Network Analysis

Note
Three hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 100

Corequisite: ECET 101, and MATH 150 or AIT 301

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ECET 250 - Digital Logic

Credits: 3

Study of basic logic elements including gates, flip-flops, counters, and registers. Includes Boolean algebra, logic reduction methods, and digital logic applications. Emphasis on computer simulation and PLD implementation of logic circuits.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Corequisite: ECET 100 or ETB 102.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

ECET 299 - Topics in Electronic and Computer Engineering Technology

Credits: 1-18

Provides an opportunity for faculty to present electronic and computer engineering technology topics.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

ECET 301 - Circuits II

Credits: 4

Analysis of passive networks containing resistance, capacitance, and inductance operating in alternating current conditions. Includes sinusoidal waveforms, polar and rectangular complex algebra, inductive and capacitive reactance, impedance networks, power factor correction, resonance, magnetic circuits, and an introduction to three-phase power distribution. Calculus relationships between linear bilateral electrical components are also discussed.

Note
Three hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECET 101 and MATH 150 or AIT 301

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ECET 304 - Electric Power and Devices

Credits: 3

Industrial applications of direct and alternating power, devices, and systems. Topics include electrical and electronic power devices, controllers, servomechanisms, and actuators; DC and AC motors and generators, motor speed control and drive systems; electrical power distribution, and industrial electronics applications.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECET 100 or ETB 102 or ECET 101 and MATH 150.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ECET 320 - Electronic Communication Systems

Credits: 3

A survey of analog and digital communication techniques and systems including modulation, transmission line concepts, radio-wave propagation, antenna theory, and the effects of noise.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECET 110, ECET 201, and MATH 220 or AIT 301.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ECET 330 - Industrial Controls

Credits: 4

A study of electronic circuits and systems encountered in industrial environments. Topics include power control devices and applications, power system design, sensors, transducers, PLCs, computer-based data acquisition, and automatic control concepts.

Note
Three hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Corequisite: ECET 350.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ECET 335 - Industrial Control Topics

Credits: 1

Study of the applications of electronic circuits and systems in industrial environments. Topics include control systems and devices, control system modeling and simulation.

Note
Two hours lab a week.

Repeat for Credit
Y

Requisites
Prerequisite: ECET 100 or AIT 335

Typically Offered
Spring

ECET 340 - Electronic Manufacturing

Credits: 3

A practical course in the details of electronic system design and fabrication. Topics include printed-circuit board design, layout, and fabrication; electronic-system design principles; 3D modeling, fabrication, packaging, and assembly techniques for electronic systems; and through-hole and surface-mount technologies.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECET 100 or AIT 335

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ECET 350 - Microprocessor Fundamentals

Credits: 3

Concepts of microprocessor architecture, programming, and interfacing. Topics include assembly and C language programming, data conversion methods, and microprocessor-based system development tools.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECET 100 or AIT 335

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

ECET 352 - Digital Circuits and Systems

Credits: 3

Study of digital circuits and systems, i.e., systems controlled by microprocessors and microcontrollers. Students design and build digital circuits for the solution of engineering problems. Digital circuit design, and interfacing techniques are emphasized.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECET 350 and CMST 302 or instructor consent.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

ECET 354 - Microcontroller Applications

Credits: 3

Examines the hardware and software of microcontroller controlled systems designed for a specific purpose (i.e. embedded systems). Students will learn how to interface microcontrollers to various sensors, actuators and communication devices as well as learn the programming associated with these devices.

Note
Two hours lecture and two hours lab.

Repeat for Credit
N

Requisites
Prerequisite: ECET 350 and CMST 302.

Typically Offered
Fall

ECET 414 - Electromagnetic Applications

Credits: 4

Emphasizes the physical understanding and visualization of Maxwell's Equations leading to the design of linear bilateral circuit components, waveguides and passive sensors for use in the radio-frequency (RF) regime.

Note
Three hours lecture and two hours lab.

Repeat for Credit
N

Requisites
Prerequisite: ECET 320 and MATH 220.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ECET 420 - Communication Circuits Design

Credits: 3

An introduction to the theory and design of electronic circuits for communications emphasizing the implementation and analysis of common radio-frequency (RF) building blocks. Topics include s-parameters, the Smith chart, component behavior, RF test equipment, computer simulation, filter design, impedance matching, amplifiers, oscillators, mixers, and demodulators.

Note
Three hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECET 320.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ECET 421 - Telecommunication Systems

Credits: 4

An introduction to data communications and a survey of modern communication systems. Topics include Fourier analysis, data encoding, data link control, fiber-optic systems, cellular systems, satellite systems, and the modern telephone system.

Note
Three hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECET 320, CYBR 250, and MATH 221.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ECET 430 - Signals and Systems

Credits: 3

A study of various network topics including Laplace transforms, signal flow graph models, transfer functions, network response, and differential equations and linear approximations of physical systems. The theory of control systems and their applications are discussed.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ECET 201.
Corequisite: MATH 220 or AIT 301.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

ECET 450 - Digital Systems and Computer Architecture

Credits: 4

Development of advanced digital design techniques. Topics include VHDL-based design, simulation, and synthesis; testing and validation; system-level interfacing; and computer architecture.

Note
Three hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECET 350.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

ECET 480 - Electronic Design I

Credits: 1

Application of electronic principles and the design methodology to solving a significant design problem in a team context. Includes determining customer requirements, exploring and choosing design alternatives, scheduling, and project management. Significant milestones are the project's conceptual, preliminary, and critical design reviews, which require written and oral presentations.

Note
Two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECET 320 and ECET 352 and ENGL 302.
Corequisite: ECET 430.

Typically Offered
Fall

ECET 481 - Electronic Design II

Credits: 2

A continuation of ECET 480. Includes the implementation, testing, and delivery of the project initiated in ECET 480 Electronic Design I. Significant milestones are the project prototype, design report, and final presentation.

Note
Four hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECET 480.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

ECET 499 - Advanced Topics in Electronic and Computer Engineering Technology

Credits: 1-18

Provides an opportunity for faculty to present advanced electronic and computer engineering technology topics.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

ECON 101 - Contemporary Economic Issues

Credits: 3

An introduction to economic analysis and thinking on current issues that our society as well as other nations face. Using essential tools of economics such as opportunity cost, marginal analysis, and demand and supply, we examine some contemporary issues in an issue-oriented manner, rather than technically oriented. For students who want to familiarize themselves with current national and international economic issues and concerns. Not intended to be taken by economics majors or minors.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

ECON 110 - Principles of Macroeconomics

Credits: 3

Basic facts, principles, and problems of economics; determination of the level of output, employment, and the price level; the monetary and banking system; problems and policies of economic instability, inflation, and growth; principles of economic development; other economics systems.

Repeat for Credit
N

Requisites
Prerequisite: Probability of a grade of C or higher (PROB ≥ C) of at least 40 percent according to the economics component if the ACT Student Profile, a score of 18 or higher on the Math placement exam, or a Grade of B or higher in MATH 010.

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Global Issues and Perspectives
Social Sciences

ECON 111 - Principles of Macroeconomics - Honors

Credits: 3

Basic facts, principles, and problems of economics; determination of the level of output, employment, and the price level; the monetary and banking system; problems and policies of economic instability, inflation, and growth; principles of economic development; other economics systems.

Repeat for Credit
N

Requisites
Prerequisite: Participation in honors program and consent of instructor.

Typically Offered
Other

K-State Core
5 Social and Behavioral Sciences

K-State 8
Global Issues and Perspectives
Social Sciences

ECON 120 - Principles of Microeconomics

Credits: 3

Basic facts, principles, and problems of economics including study of the determination of prices; the determination of wages, rent, interest, and profit; theory of the firm; monopoly and government regulation; international economic relations.

Repeat for Credit
N

Requisites
Prerequisite: Probability of a grade of C or higher (PROB ≥ C) of at least 40 percent according to the economics component of the ACT Student Profile, a score of 18 or higher on the Math Placement Exam, or a grade of B or higher in MATH 010.

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Social Sciences

ECON 399 - Honors Seminar in Economics

Credits: 3

For sophomores in honors program-scheduled irregularly. Readings and discussions.

Note
Open to students in the honors program not majoring in economics.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Social Sciences

ECON 401 - Sophomore/Junior Seminar in Economics

Credits: 1

An introduction to economics as a science and a profession. The course introduces students to the skills and tools that make economics an attractive and enjoyable field as well as an overview of economic data and current debates.

Note
Open only to economics majors and those contemplating an economics major.

Repeat for Credit
N

Requisites
Prerequisite: ECON 110 and ECON 120.

Typically Offered
Other

K-State 8
Social Sciences

ECON 499 - Honors Project

Credits: 3

Open only to Arts and Sciences students who are active members of the University Honors Program.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

ECON 505 - South Asian Civilizations

Credits: 3

Interdisciplinary survey of the development of civilization in India, Pakistan, Sri Lanka, Bangladesh, and Afghanistan, including geography, history, religion, culture, language, literature, current economy, and significant social movements.

Note
May not be counted toward economics major or minor.

Repeat for Credit
N

Requisites
Prerequisite: Three hours of social science or junior standing.

Typically Offered
Spring

Cross-listed
ANTH 505, GEOG 505, HIST 505, POLSC 505, SOCIO 505

K-State 8
Global Issues and Perspectives
Social Sciences

ECON 507 - The Japanese Economy

Credits: 3

Analyzes Japan's growth, productivity change, income distribution, government policies, agriculture, industrial structure, labor relations education and technology, and international trade and finance. Emphases will be on U.S.-Japanese competition and comparisons.

Repeat for Credit
N

Requisites
Prerequisite: ECON 110.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Social Sciences

ECON 510 - Intermediate Macroeconomics

Credits: 3

An examination of the behavior of the economy as a whole, including an analysis of the national income account, consumption, investment, money, interest, the price, level, the level of employment, monetary and fiscal policy, and economic growth.

Repeat for Credit
N

Requisites
Prerequisite: ECON 110, and one of the following, ECON 120 or AGEC 120 or AGEC 121.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

ECON 520 - Intermediate Microeconomics

Credits: 3

An examination of the theories of consumer behavior and demand, and the theories of production, cost, and supply. The determination of product prices and output in various market structures, and an analysis of factor pricing. Introduction to welfare economics.

Note
Students cannot receive credit for both ECON 520 and ECON 521.

Repeat for Credit
N

Requisites
Prerequisite: ECON 120 or AGEC 120 or AGEC 121.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

ECON 521 - Intermediate Microeconomic Theory

Credits: 3

A mathematical approach to intermediate microeconomics. Emphasis is placed on the use of optimization techniques to examine consumer demand, production and cost, behavior of the firm, market structure and welfare.

Note
Students cannot receive credit for both ECON 520 and ECON 521.

Repeat for Credit
N

Requisites
Prerequisite: ECON 120 or AGEC 120 or AGEC 121; and MATH 205 or MATH 220.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

ECON 523 - Human Resource Economics

Credits: 3

An introduction to the economic forces influencing wage and employment determination, income differentials, unemployment, and the production and acquisition of human capital. Emphasis on public policy, labor unions, and other relevant institutions.

Note
May not be counted toward economics major.

Repeat for Credit
N

Requisites
Prerequisite: ECON 120 or AGEC 120 or AGEC 121.

Typically Offered
Spring

K-State 8
Social Sciences

ECON 524 - Sports Economics

Credits: 3

An economic analysis of professional and amateur sports. Pay determination of professional athletes, monopsony power of owners, discrimination, the importance of leagues, competitive balance, antitrust issues, collective bargaining, the financing of sports stadiums, and current economic issues in sports.

Repeat for Credit
N

Requisites
Prerequisite: ECON 120 or AGEC 120 or AGEC 121.

Typically Offered
Fall, Spring

K-State 8
Social Sciences

ECON 527 - Environmental Economics

Credits: 3

Economics of environmental market failure and the efficient use of exhaustible and renewable resources. Topics include the application of markets and government policies to greenhouse warming, air and water pollution, and recycling.

Repeat for Credit
N

Requisites
Prerequisite: ECON 120 or AGEC 120 or AGEC 121.

Typically Offered
Other

K-State 8
Social Sciences

ECON 530 - Money and Banking

Credits: 3

Nature, principles, and functions of money; development and operation of financial institutions in the American monetary system, with emphasis on processes, problems, and policies of commercial banks in the United States.

Repeat for Credit
N

Requisites
Prerequisite: ECON 110.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

ECON 532 - Fiscal Operation of State and Local Government

Credits: 3

Designed for students who plan careers related to state or local government. Selected topics in state and local taxation and expenditure.

Repeat for Credit
N

Requisites
Prerequisite: ECON 110 and permission of instructor.

Typically Offered
Other

K-State 8
Social Sciences

ECON 536 - Comparative Economics

Credits: 3

The transition by Russia, Ukraine, Eastern and Central Europe, and Central Asia to market economics; economic reform in China, India, and other countries; and Marxian critiques of capitalism.

Repeat for Credit
N

Requisites
Prerequisite: ECON 110 or ECON 120 or AGEC 120 or AGEC 121.

Typically Offered
Fall

K-State 8

Global Issues and Perspectives
Social Sciences

ECON 540 - Managerial Economics

Credits: 3

Microeconomic topics applicable to understanding and analyzing firm behavior: optimization, demand, estimation, production, and cost theory. Applications to business problems.

Repeat for Credit
N

Requisites
Prerequisite: ECON 120 or AGEC 120 or AGEC 121; and an introductory-level statistics course (STAT 225, STAT 240, or STAT 250); and MATH 205 or MATH 220.

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

ECON 555 - Urban and Regional Economics

Credits: 3

An examination of the determinants of the economic performance of urban and regional economies, including theory, problems, and policy.

Repeat for Credit
N

Requisites
Prerequisite: ECON 120 or AGEC 120 or AGEC 121.

Typically Offered
Fall

K-State 8
Social Sciences

ECON 580 - Senior Seminar in Economics

Credits: 3

Topics for class discussion include history of economic thought, research methods in economics, and current economic issues. Students will prepare and present papers written with faculty guidance.

Note
Required of all economics majors.

Repeat for Credit
N

Requisites
Prerequisite: ECON 510; and ECON 520 or ECON 521; and STAT 351, or STAT 511 or STAT 705 or concurrent enrollment in one of the three. ECON majors only.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

ECON 590 - Monetary, Credit, and Fiscal Policies

Credits: 3

Advanced study of monetary, credit, and fiscal policies including the goals of aggregative economic policy, conflicts among goals, and measures to resolve conflicts; money markets; targets of central bank control; the relative strength of monetary and fiscal policies; rational expectations; hypothesis and policy ineffectiveness debate; terms structure of interest rates.

Repeat for Credit
N

Requisites
Prerequisite: ECON 110.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

ECON 595 - Problems in Economics

Credits: 1-18

Individual study is offered in international trade, labor relations, money and banking, public finance, transportation, general economics.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

ECON 599 - Topics in Economics

Credits: 1-3

Courses on special topics to be taught on demand.

Repeat for Credit
Y

Requisites
Prerequisite: To be set for each topic.

Typically Offered
On sufficient demand

ECON 605 - Economic Applications of Game Theory and Strategic Behavior

Credits: 3

Basic principles of game theory including Nash equilibria, repeated games, and strategy with incomplete information.

Note
Lecture course.

Repeat for Credit
N

Requisites
Prerequisite: ECON 520 or 521; and MATH 205 or MATH 220.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

ECON 608 - Python Coding for Economics

Credits: 3

Introduction to quantitative methods in economics. Works with Python programming language and covers topics such as using and coding functions, working with loops, object-oriented programming, understanding and building classes, data visualization, data management, and optimization.

Repeat for Credit
N

Requisites
Prerequisite: ECON 510 or ECON 520, and STAT 225 or STAT 240 or STAT 250
Recommended Prerequisite: ECON 510 AND ECON 520 or concurrent enrollment

Typically Offered
Spring

ECON 620 - Labor Economics

Credits: 3

Economics of the labor market--theory and empirical evidence. Labor force composition and trends, labor supply, labor demand, human capital, wage differentials, migration, trade unions, and current issues.

Repeat for Credit
N

Requisites
Prerequisite: ECON 520 or ECON 521.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

ECON 627 - Contemporary Labor Problems

Credits: 3

Emphasis on current research and public policies dealing with such matters as full employment, poverty, discrimination, social security, unemployment insurance, health care, minimum wages, training, and education.

Repeat for Credit
N

Requisites
Prerequisite: ECON 620 or consent of instructor.

Typically Offered
Other

K-State 8
Social Sciences

ECON 630 - Introduction to Econometrics

Credits: 3

An introduction to the analytical and quantitative methods used in economics. Applications to specific problems with an emphasis on computer analyses.

Repeat for Credit
N

Requisites
Prerequisite: ECON 120 or AGEC 120 or AGEC 121; and MATH 205 or MATH 220; and STAT 351 or AGEC 501 or STAT 511 or STAT 705.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

ECON 631 - Principles of Transportation

Credits: 3

Examines the transportation market from the shippers' point of view by examining the impact of transportation on business firm decisions such as location, markets, and prices. Also covers the costs, prices, and service characteristics of railroads, motor carriers, water carriers, oil pipelines and airlines. The role and impact of government in the transportation market is examined from both a promotion and regulation perspective.

Repeat for Credit
N

Requisites
Prerequisite: ECON 120 or AGEC 120 or AGEC 121.

Typically Offered
Fall, Spring

K-State 8
Social Sciences

ECON 633 - Public Finance

Credits: 3

Course seeks answers to questions such as: Which goods should be provided by the private sector and which by the public sector (government)? With what criteria are public expenditures evaluated? What is an equitable and efficient tax system? Who bears the tax burden? What aspects of existing taxes need reform?

Repeat for Credit
N

Requisites
Prerequisite: ECON 110, and ECON 120 or AGEC 120 or AGEC 121.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

ECON 640 - Industrial Organization and Public Policy

Credits: 3

An examination of measures and determinants of industrial concentration, and an analysis of market structure, conduct, and performance, and policies related to performance.

Repeat for Credit
N

Requisites
Prerequisite: ECON 120 or AGEC 120 or AGEC 121.

Typically Offered
Other

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

ECON 681 - International Trade

Credits: 3

Principles of international trade, determinants of the value of trade between any pair of countries, sources of gains from trade, main factors determining the pattern of trade, commercial policy, the political economy of trade and strategic trade policy.

Repeat for Credit
N

Requisites
Prerequisite: ECON 110 and one of the following: ECON 120 or AGEC 120 or AGEC 121.

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives
Social Sciences

ECON 682 - Development Economics

Credits: 3

Factors affecting the economic modernization of the less-developed countries. Emphasis on capital formation, human capital, investment allocation, technical progress, income distribution, population growth, and the international economics of development.

Repeat for Credit
N

Requisites
Prerequisite: ECON 110.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Social Sciences

ECON 684 - International Finance and Open Economy Macroeconomics

Credits: 3

Introduction to international finance and open-economy macroeconomics, including the foreign exchange market, the balance of payments, international financial markets, and recent and ongoing financial crises. Covers core theoretical material, the course will examine current policy issues.

Repeat for Credit
N

Requisites
Prerequisite: ECON 110; and ECON 120 or AGEC 120 or AGEC 121; and ECON 510.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Social Sciences

ECON 686 - Economics Forecasting

Credits: 3

Focus on forecasting macroeconomic variables such as sales activity, tax revenues and other important variables. Techniques of forecasting using econometrics.

Repeat for Credit
N

Requisites
Prerequisite: ECON 110; and ECON 120 or AGEC 120 or AGEC 121.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

ECON 688 - Health Economics

Credits: 3

This course applies the tools of microeconomics to the health-care sector. It analyzes the behavior of consumers and providers of medical care, the functioning of insurance markets, and the roles of government and the private sector. International comparisons are made.

Repeat for Credit
N

Requisites
Prerequisite: ECON 120 or AGEC 120 or AGEC 121.

Typically Offered
Fall-Odd Years

K-State 8
Social Sciences

ECON 695 - Undergraduate Research Methods in Economics

Credits: 3

Development of a research proposal and completion of a research project under the guidance of a faculty member. Instruction in research design, methods and data. The independent-work phase of the course will be structured with weekly targets for completing economic theory, data/case study description, methods description and analysis and interpretation.

Repeat for Credit
N

Requisites
Prerequisite: ECON 110; and ECON 120 or AGEC 120 or AGEC 121; and ECON 630. Some prerequisites may be waived with instructor consent.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

ECON 699 - Seminar in Economics

Credits: 1-3

Seminars of special interest will be offered on demand.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 120 or AGEC 120 or AGEC 121.

Typically Offered
On sufficient demand

ECON 710 - History of Economic Thought

Credits: 3

Development of economic ideas and doctrines and the relation of these to conditions existing when they were formulated.

Repeat for Credit
N

Requisites
Prerequisite: ECON 510.

Typically Offered
Other

ECON 720 - Microeconomic Theory

Credits: 3

Demand, cost, and production theories; price and output determination in different market structures; the theory of factor market pricing; an introduction to general equilibrium and welfare analysis.

Repeat for Credit
N

Requisites
Prerequisite: ECON 520 or ECON 521; and MATH 205 or MATH 220.

Typically Offered
Fall

ECON 730 - Applied Econometrics

Credits: 3

Emphasis on applied econometrics methods. Topics include simple and multiple linear regression as well as other econometric models used in economics. Diagnosis and remedies of potential problems with linear models and data, leading to quantitative answers to empirical questions.

Repeat for Credit
N

Requisites
Prerequisite: ECON 630.

Typically Offered
Spring

ECON 735 - Mathematical Economics

Credits: 3

Application of mathematical tools of concrete problems in micro- and macro-economics; mathematical treatment of models of consumption, production, market equilibrium, and aggregate growth.

Repeat for Credit
N

Requisites
Prerequisite: ECON 520; and MATH 205 or MATH 220.

Typically Offered
Fall

ECON 801 - Topics in Monetary Theory

Credits: 3

Emphasis on recent literature of monetary economics; Federal Reserve control of the money stock; the demand for money; money and economic activity; monetary targets and indicators.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 510 and ECON 530.

Typically Offered
Other

ECON 805 - Macroeconomic Theory I

Credits: 3

An overview of macroeconomic theory including Classical, Keynesian, and Monetarist theory. An Introduction to modern analysis in macroeconomics with an emphasis on dynamic methods and general equilibrium analysis.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 120 and ECON 510.

Typically Offered
Spring

ECON 815 - Economic Analysis for Business

Credits: 3

Microeconomic and macroeconomic theory with selected business applications. Theory of consumer and producer behavior and price determination in individual markets. Theory of aggregate economic behavior and the effects of fiscal and monetary policies.

Note
Not available for graduate credit in economics.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 110, ECON 120, and one semester of calculus (MATH 205 or MATH 220).

Typically Offered
Spring

ECON 823 - Advanced International Economics

Credits: 3

Theoretical and policy issues related to the international monetary system, capital movements, exchange rate systems, the U.S. balance of payments, and trade of underdeveloped countries.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 681 or consent of instructor.

Typically Offered
Other

ECON 830 - Econometrics I

Credits: 3

Fundamentals of econometric analysis. The classical linear model, multi-collinearity, specification error, distributed lags, non-normal disturbances, dummy variables, generalized least squares, autocorrelation, heteroscedasticity. Applications to specific problems.

Repeat for Credit

Y

Requisites
Prerequisite: ECON 520; and MATH 205 or MATH 220; and STAT 706.

Typically Offered
Spring

ECON 832 - Public Sector Analysis

Credits: 3

Conditions for economic efficiency in the public sector; public good production functions; nonmarket decision making; rationale for public sector growth; systems analysis, cost-benefit and related techniques of allocating public goods.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 633.

Typically Offered
Other

ECON 840 - Managerial Economics

Credits: 3

Economic analysis of production, cost, and demand functions. Application of economic models to managerial decision making.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 520; and MATH 205; and one course in statistics with a prerequisite in the same department.

Typically Offered
Fall

ECON 881 - Topics in International Trade and Development Economics

Credits: 3

Covers key topics of current interest international trade and development economics, including new theories of firm-level comparative advantage and offshoring, outsourcing, and multinational activities.

Repeat for Credit
N

Requisites
Prerequisite: ECON720, ECON940, or consent of instructor

Typically Offered
Spring-Odd Years

ECON 890 - Seminar in Economics

Credits: 1-3

Course will provide seminars on specific topics in economics.

Note
Prerequisites vary with announced subject matter.

Repeat for Credit
Y

Typically Offered
Other

ECON 895 - Problems in Economics

Credits: 1-18

Advanced individual study is offered in selected subject matter.

Repeat for Credit
Y

Requisites
Prerequisite: Background of courses needed for problems being studied. ECON 898. Master's Report in Economics. ECON 899. Master's Research in Economics.

Typically Offered
Fall, Spring, Summer

ECON 898 - Master's Report in Economics

Credits: 1-18

Master's Report in Economics

Repeat for Credit
Y

Typically Offered
Other

ECON 899 - Master's Research in Economics

Credits: 1-18

Master's Research in Economics

Repeat for Credit
Y

Typically Offered
Other

ECON 905 - Macroeconomic Theory II

Credits: 3

A study of advanced topics in macroeconomic theory including general equilibrium analysis, economic growth, business cycle theory, and other developments in macroeconomic theory.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 805 and ECON 735.

Typically Offered
Fall

ECON 910 - Topics in Macroeconomics

Credits: 3

Exploration of seminal and current research in macroeconomic topics such as growth, business cycles, or public policy. Topics will be related to the research interests of the professor and students.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 805 and ECON 905.

Typically Offered
Fall, Spring

ECON 915 - Macroeconomic Modelling

Credits: 1-3

Examines current topics in macroeconomics with an emphasis on empirical modelling. The course will be structured to allow the student an in-depth look at influential articles in the literature through presentations and required summary papers, and apply similar skills in an assigned original research paper.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 735 and ECON 805.

Typically Offered
Other

ECON 920 - Labor Economics Seminar

Credits: 3

A critical analysis of wage theories, collective bargaining, and unemployment problems.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 620 or consent or instructor.

Typically Offered
Other

ECON 925 - Location of Economic Activities

Credits: 3

An examination of the theory of location including central place theory, location of the individual producer, industrial location patterns, and urban land-use models. Also includes application of theoretical models to current urban problems.

Repeat for Credit
Y

Typically Offered
Other

ECON 927 - Advanced Labor Economics

Credits: 3

An examination of studies in labor supply, labor demand, immigration, and current topics in labor economics.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 730 or concurrent enrollment in ECON 720.

Typically Offered
Other

ECON 930 - Econometrics II

Credits: 3

Continuation of Econometrics I. Stochastic regressors, asymptotic results, instrumental variable estimation, systems of equations, maximum likelihood estimation, nonlinear least squares, and other miscellaneous topics in econometrics.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 830.

Typically Offered
Fall

ECON 935 - Time Series Econometrics

Credits: 3

Discussion of recent advances in tome series econometrics. Economic forecasting, vector autoregressive modeling, unit root testing, cointegration, and other topics.

Repeat for Credit
N

Requisites
Prerequisite: ECON 930 or consent of instructor.

Typically Offered
Fall

ECON 938 - Microeconometrics

Credits: 3

A survey of recent advances in microeconometrics, including panel data, treatment effects, and other topics, to provide students with the analytical tools used in economic research.

Repeat for Credit
N

Requisites
Prerequisite: ECON 830.

Typically Offered
Fall

ECON 940 - Advanced Microeconomic Theory I

Credits: 3

An examination of demand, production, and cost theories; a discussion of duality theory and the application of the Le Chatelier principle; an analysis of price and output determination in different market structures.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 520 and ECON 735.

Typically Offered
Spring

ECON 945 - Advanced Microeconomic Theory II

Credits: 3

A study of advanced topics in economic theory, including general equilibrium theory, welfare economics, and risk and uncertainty.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 940.

Typically Offered
Fall

ECON 947 - Industrial Organization

Credits: 3

Theory of industrial organization and its analytical techniques. Game theory; monopoly pricing; product and quality selection; vertical control; static and dynamic theories of oligopoly; product differentiation, price dispersion, and advertising; asymmetric information and strategic behavior.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 735.

Typically Offered
Other

ECON 948 - Empirical Industrial Organization

Credits: 3

Analysis of market outcomes resulting from behavior and strategy of economic agents in imperfectly competitive markets, using econometric methods. Topics may include: models of consumer demand and methods of estimation; identifying and measuring market power and market effects of mergers; static models of entry and industry structure; single-agent dynamic structural models; dynamic oligopoly games; production, technology and industry structure; and other recent advances in empirical industrial organization.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 940 and ECON 830, or consent of instructor.

Typically Offered
Other

ECON 955 - Theory and Methods of Regional Economic Analysis

Credits: 3

A consideration of differences in regional and urban growth; comparison of alternative growth theories; methods of analyzing regional economics such as input-output analysis, linear programming, industrial complex, and spatial interaction models.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 925 or consent of instructor.

Typically Offered
Other

ECON 981 - International Trade Theory and Policy

Credits: 3

Discussion of recent literature in trade theory and policy under imperfect competition. International trade in imperfectly competitive international markets, strategic trade policies, political economy of trade protectionism, welfare effects of trade liberalization and economic integration, and other issues.

Repeat for Credit
Y

Requisites
Prerequisite: ECON 735.

Typically Offered
Other

ECON 999 - PhD Research in Economics

Credits: 1-18

PhD Research in Economics

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDACE 502 - Independent Study in Adult Learning and Leadership

Credits: 1-3

Selected topics in professional education.

Note
Maximum of 3 hours applicable toward degree requirements. Consent of department chair.

Repeat for Credit
Y

Typically Offered
Fall, Spring

EDACE 714 - International Education

Credits: 3

Contemporary overview of the field of international education and an introduction to three of its parts. Comparative education, intercultural education, and development education.

Repeat for Credit
N

Typically Offered
Other

EDACE 733 - Practicum in Adult Learning and Leadership

Credits: 1-6

Related occupational or professional experiences in approved industry, school, Cooperative Extension Service, or similar agency setting under faculty supervision.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDACE 750 - Women, Education, Leadership, and Work

Credits: 3

Emphasizes the collective and individual educational needs of women in and out of the work force and the part that occupational/educational preparation contributes to their participation in the work force.

Repeat for Credit
N

Typically Offered
Other

EDACE 765 - Adult Learners and Integrating Technology into Curriculum

Credits: 3

This course includes an in-depth study of methods for integrating innovative technologies into the curriculum for adult learners. With an indepth understanding of adult learners, students will analyze learning theories and appropriate technologies for revlevance, effectiveness, and alignment with course curriculum.

Repeat for Credit
N

Requisites
Recommended Foundation Course: EDACE 790.

Typically Offered
Fall, Spring, Summer

EDACE 775 - Readings in Adult Learning and Leadership

Credits: 1-3

Readings in research and application in specialized areas in education.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Other

EDACE 780 - Introduction to Adult Learning and Leadership

Credits: 3

A survey of adult learning and leadership field. Consideration given to articulation with other levels of education. Identification of changing needs within the field are reviewed.

Repeat for Credit
N

Typically Offered
Other

EDACE 782 - Educational Gerontology

Credits: 3

For both the practitioner and those interested in educational gerontology as a field of inquiry. It will examine education for and about aging, with particular reference to the role, needs, and ability of persons in the later years as learners.

Repeat for Credit
N

Typically Offered
On sufficient demand

EDACE 785 - Designing Classroom Instruction and Curriculum for Adult Learners

Credits: 3

This course focuses on the systematic approach to instructional design for adult learners. A comprehensive discussion of all major components of curriculum design from instructional objectives, course sequencing, instructional strategies, formative assessments and summative evaluations will be included. A major focus will also be on transfer of learning.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDACE 786 - Topics in Adult Learning and Leadership

Credits: 1-3

Examination of current topic in area of specialization of faculty.

Repeat for Credit
Y

Typically Offered
Other

EDACE 790 - Characteristics of the Adult Learner

Credits: 3

For teachers and administrators in adult and occupational programs who need a familiarity with the major characteristics of adulthood which affect the adult as a learner.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDACE 792 - Hospital and Industry Adult Learning and Leadership

Credits: 3

An introduction to principles, roles, organization, procedures, and problems of adult learning and leadership in hospitals, industry, and related agencies.

Repeat for Credit
N

Typically Offered
On sufficient demand

EDACE 795 - Problems in Adult Learning and Leadership

Credits: 1-18

Independent study of specific problems in the areas of adult learning and leadership.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Other

EDACE 815 - Introduction to Community Educational Development

Credits: 3

A comprehensive review of factors related to community change and the role of educational programs in dealing with them. Emphasis is on educational and economic problem-solving approaches and change-implementing programs.

Repeat for Credit
Y

Typically Offered
Other

EDACE 816 - Foundations of Social Justice Education: Research, Theory, and Practice

Credits: 3

This course focuses on the principles of social justice education that promote equitable, sustainable, and transformative change in various formal and non-formal educational settings across the lifespan. The course integrates theoretical and practical aspects of social justice in local, national and international settings such as K-12 formal education, higher education, adult education, community development, and family education, and agricultural education.

Repeat for Credit
N

Typically Offered
Fall, Summer

EDACE 817 - Reflective Practice in Social Justice Education

Credits: 3

This course focuses on the application of principles of social justice education in informal and formal educational settings. Student-conceptualized and -implemented theory-to-practice social justice education projects serve as the capstone or culmination of the graduate certificate, with projects presenting powerful opportunities for students to foster social change and positively impact the communities in which they work.

Repeat for Credit
N

Requisites
Prerequisite: EDACE 816.

Typically Offered
Fall, Spring, Summer

EDACE 818 - Critical and Social Issues in Adult Learning

Credits: 3

Designed for adult learning and students and college or university personnel in sociology and related fields dealing with adults, this course focuses on the economic historical and sociocultural context in which learning takes place. Included is an in-depth examination of the relationship between adult learning and culture.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDACE 820 - Principles of Teaching Adults

Credits: 3

This course will explore the theory and practice of teaching adults. Collaborative and active learning techniques will be emphasized in face-to-face and online environments. Students will examine the strengths, weaknesses, and appropriate application of a variety of methods to different adult education environments.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDACE 822 - International Adult Education and Literacy

Credits: 3

This course provides an introduction to the foundations of global, political, social-economic and educational issues facing international adult education and literacy students for English as a Second Language learners.

Repeat for Credit
N

Typically Offered
Spring, Summer

EDACE 824 - Teaching Online in Adult Learning

Credits: 3

This course examines online adult learning theories, online pedagogies, current research, and trends in e-education for the workplace and higher education.

Repeat for Credit
N

Typically Offered
Spring

EDACE 825 - Theory and Practice of Continuing Education

Credits: 3

Specific instruction on facilitating continuing education programs; emphasis on serving the institution, part-time students, community, and other interests.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDACE 830 - Program Planning in Adult Learning and Leadership

Credits: 3

An examination of the basic situations in which adult education occurs and fundamental steps by which learning is made more effective in those situations.

Repeat for Credit
N

Typically Offered
Other

EDACE 831 - Teaching and Leading Multigenerations of Adults

Credits: 3

Examines the traits of generations as defined as age cohort that shares unique formative years. The context of teaching and leading multigenerations will be addressed. Students will learn how to apply concepts to foster communication and collaboration of all generations present.

Repeat for Credit
N

Typically Offered
Fall-Odd Years

EDACE 832 - Interpersonal and Intrapersonal Dynamics in Adult Learning and Leadership

Credits: 3

This course explores various psychological and sociological factors that impact leadership. Through examining topics like verbal and nonverbal communication, active listening, learning and presentation styles, emotional intelligence, conflict, and motivation, students gain a deeper understanding of how these factors affect their personal leadership styles and impact adults they are leading.

Repeat for Credit
N

Typically Offered
Spring, Summer

EDACE 833 - Digital Leadership Development in Adult Education

Credits: 3

Provides an essential introduction into digital leadership development (DLD) in adult education. Helps students acquire the skills and competencies required of adult educational leaders and administrators to make well-

grounded decisions in providing leadership on planning and designing digital learning environments and experiences. Also discusses social, ethical, and human issues related to digital leadership development and adult learners.

Repeat for Credit
N

Typically Offered
Summer

EDACE 834 - Leading Adults in a Globalized and Diverse World

Credits: 3

This course provides an introduction to the foundations of adult education leadership in the context of managing a culturally diverse workforce. Concepts of globalization as well as cross- cultural and international environments as they relate to adult education leadership are emphasized through theory to practice projects and research.

Repeat for Credit
Y

Typically Offered
Fall

EDACE 835 - Developing Teams and Adult Leaders

Credits: 3

This course will examine how teams and leaders can be developed using adult learning and leadership theories and principles.

Repeat for Credit
N

Typically Offered
Spring

EDACE 836 - Group Dynamics in Adult Learning and Leadership

Credits: 3

This course focuses on group and team behavior and processes in the adult education environment. Various factors that impact group behavior, processes, and effectiveness will be examined and participants will learn skills needed to more effectively manage and facilitate groups and teams of adults to achieve organizational objectives, accomplish tasks, and fulfill individual members' needs.

Repeat for Credit
N

Typically Offered
Spring, Summer

EDACE 837 - Quality Programs and Staff Management in Adult Learning and Leadership

Credits: 3

Utilizes the use of adult education theories of program administration to enhance student understanding of staff and team dynamics. Focuses on developing interpersonal skills so that students can be more effective leaders, problem solvers, motivators, coaches, and change managers.

Repeat for Credit
N

Typically Offered
Fall, Summer

EDACE 838 - Volunteer Leadership Education

Credits: 3

Introduce students to managing and leading volunteers using an adult model. Volunteers are very similar to employees—both have to be managed, coached and trained.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDACE 839 - Experiential Learning and Leadership Dynamics

Credits: 3

Framed in the theory of experiential learning, students will apply theories and principles learned throughout the leadership dynamics program to a professional problem/setting. Students will present their experiences to a panel of academic and professional practitioners.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDACE 845 - Social Media and Adults in the 21st Century

Credits: 3

This course addresses the most popular social media and helps students understand the promise and challenge that social media has brought to 21st century working adults. Example topics include but are not limited to Social Media and adult learning, Social Media in the workforce, and new technology literacy in 21st century.

Repeat for Credit
Y

Typically Offered
Spring

EDACE 847 - Adult Learning and Motivation

Credits: 3

Core course of adult learning perspectives and motivation for learning.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDACE 850 - Self-Directed Learning

Credits: 3

Self-directed or independent learning is an important aspect of adult education because it represents a significant portion of all learning by adults. The concept was instrumental in distinguishing the fields of adult education. During this course, students will explore self-directed learning from both an academic and a personal perspective. Topics include its history and development, its research base, areas of current interest and implications for adult education practice.

Repeat for Credit
N

Typically Offered
Summer

EDACE 851 - The Historical and Contemporary Community College

Credits: 1

Focus on developing an understanding of historical and contemporary issues that have shaped and continue to impact community colleges. Students will develop and improve skills that are outlined in the leadership competencies published by the American Association of Community Colleges.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership.

Typically Offered
On sufficient demand

EDACE 852 - Field Study: The Historical and Contemporary Community College

Credits: 1

Field studies exposes students to a systematic approach to identify and analyze historical issues and issues facing contemporary community college leaders. The implications of issues for community colleges are to be considered from a leadership perspective.

Repeat for Credit
Y

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership. Corequisite: EDACE 851.

Typically Offered
On sufficient demand

EDACE 853 - Access, Equity, and Success

Credits: 2

Students will explore the assets, experiences, and institutional challenges of community college students based upon personal characteristics such as race/ethnicity, socioeconomic status, age, gender, sexuality, disability, military status, and religion; and the national "best-practice" strategies currently being used to increase enrollment, persistence, and program completion for these diverse student groups.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership.

Typically Offered
On sufficient demand

EDACE 854 - Field Study: Access, Equity, and Success

Credits: 1

Provide an opportunity for students to reflect about challenges in changing community college cultures and structures from a traditional student-deficit model to a student-asset model accounting for the increasing diversity among community college students.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership. Corequisite: EDACE 853

Typically Offered
On sufficient demand

EDACE 855 - Aligning Vision, Planning, and Resources

Credits: 2

Study ways to understand, work with, and improve upon the financial model of community colleges and will help develop skills needed to do so.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership.

Typically Offered
On sufficient demand

EDACE 856 - Field Study: Vision, Planning and Resources

Credits: 1

Students will identify and analyze financial issues being faced by community colleges throughout the United States. Students will explore methods to analyze and develop viable financial solutions to address the identified issues. The legacy mission of community colleges has grown in tandem with expectations. Yet public funding of most community colleges has decreased, is less predictable, and has not kept pace with enrollment growth. These pressures compel fresh thinking about mission, priorities, resource generation, and cost containment.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership. Corequisite: EDACE 855

Typically Offered
On sufficient demand

EDACE 857 - Effective Leadership and Theory

Credits: 4

Students will be introduced to leadership issues in higher education through individual, interpersonal, team, and leadership theory and practical applications. Acentral premise of this course is to examine effective leadership practices and theories as lenses for examining leadership issues and comparing and contrasting practical applications in community colleges and competencies by their leaders while considering the terrain in which they function.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership.

Typically Offered
On sufficient demand

EDACE 858 - Field Study Effective Leadership

Credits: 1

Students will analyze community college cases studies and leadership issues and make recommendations as to how best meet the challenges described. Students will differentiate among leader competencies and lenses and assess their potential relevance to addressing community college issues and priorities. Students will also examine issues impacting colleges and implications for effective leadership development.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership. Corequisite: EDACE 857

Typically Offered
On sufficient demand

EDACE 859 - Effective Leadership Institute

Credits: 1

Students will travel to urban and rural community colleges and districts to meet with their respective chancellors, presidents, and leadership teams. Students will interact with board of trustee members, state educational association leaders, and other national community and technical college leaders.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership.

Typically Offered
On sufficient demand

EDACE 860 - Innovative Higher Education Programs for Adults

Credits: 3

Designed to provide a conceptual understanding of innovative systems and structures currently serving higher education needs of adult learners. The course will provide a historical basis for the development of these programs as well as future trends. Included will be discussions of corporate colleges, external degree programs and distance/online learning.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDACE 861 - Fostering Desired Culture: Fundamentals & Strategies for Org Development

Credits: 2

Focus on helping students to create organizational structures designed to thrive by fostering entrepreneurialism and innovation throughout the organization. This course will also focus on consideration of inclusion and equity in organizational design and development.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership.

Typically Offered
On sufficient demand

EDACE 862 - Field Study: Organizational Development

Credits: 1

Students will engage with community college leaders throughout the country concerning contemporary organizational challenges. Using research, students analyze a community college situation and make recommendations to the leader as to how best address the contemporary

organizational challenges.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership. Corequisite: EDACE 861

Typically Offered
On sufficient demand

EDACE 863 - Creating a Culture of Evidence and Inquiry

Credits: 2

Students will explore how to develop and foster of cultures of evidence and inquiry from enrollment to outcomes. Other important topics include development and use of actionable information to make decisions and measure effectiveness, and robust common measures to benchmark and improve institutional performance

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership.

Typically Offered
On sufficient demand

EDACE 864 - Field Study Enrollment to Outcomes

Credits: 1

Designed to enable participants to apply the principles of evaluation to developing a program evaluation for a student success initiative.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership.

Typically Offered
On sufficient demand

EDACE 865 - Principles of Workplace Learning

Credits: 3

This course provides an overview of various aspects of workplace learning initiatives as found in the related professional literature and from various practice-related venues. Major topics include evolution of the process of workplace learning and the profession of training; assessing and analyzing workplace learning needs; designing and delivering workplace learning programs; and measuring and evaluating the impact of workplace learning initiatives.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDACE 866 - Adult Learning,Training, and Development in Organizations

Credits: 3

Examines through adult education principles and techniques, training and development in relation to adult learning and as one of the central functions of human resource development (HRD). The focus of the course will be on expanding the students' knowledge related to organizational learning and learning organizations from educational principles; training and development concepts, frameworks, methods, and processes; and planning data-informed learning, training, and development programs, with a particular focus on adult education context.

Repeat for Credit
N

Typically Offered
Spring

EDACE 867 - Managing Change in Adult Learning and Leadership

Credits: 3

Introduces students to the process, models, and theories of change with the goal of increasing students' effectiveness in dealing with multiple aspects of personal and organizational change, inclusive of understanding conditions that may require change, increasing awareness of multiple ways that organizations change, understanding

the role of change agents, as well as understanding and managing resistance to change.

Repeat for Credit
N

Typically Offered
Spring

EDACE 875 - Program Evaluation in Adult Learning and Leadership

Credits: 3

This course will provide an overview of various methods and strategies for evaluating educational programs for adults. Students will have the opportunity to examine the literature that is related to the program evaluation process in adult education settings. Opportunities to study the manner in which the process of program evalution is conducted in modern programs for adults in governmental, educational, and private and public sector organizations will also be provided.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDACE 879 - The Community College Curriculum and Instructional Services

Credits: 3

Evaluation of community college curricula; reasons for revision, aims and objectives. Designed to familiarize student with the entire curricular offerings of the comprehensive community college.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDACE 880 - Significant Literature of Adult Learning

Credits: 3

A seminar studying the significant literature of adult learning from a current and historic perspective.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDACE 882 - Introduction to Educational Research

Credits: 2

Introduce students to educational research methods, paying particular attention to the ways in which research can be used to understand and improve daily education practice, particularly in higher education. Key differences between qualitative, quantitative, mixed methods, and action research designs are highlighted.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership.

Typically Offered
On sufficient demand

EDACE 883 - Field Study: Educational Research

Credits: 1

The purpose of this Field Study in introductory educational research methods is to enable participants to apply concepts learned in EDACE 882 Introduction to Educational Research to critiquing various journal articles reporting primary research and further developing their understanding of research questions and various research methodologies, as well as, to provide opportunities to be consumers of research.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership. Corequisite: EDACE 882.

Typically Offered
On sufficient demand

EDACE 886 - Seminars in Adult Learning and Leadership

Credits: 1-18

These seminars will consider research and professional development on the special interests of the students in the several fields of education represented.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDACE 898 - Master's Report

Credits: 1-18

Master's Report

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Other

EDACE 899 - Master's Research

Credits: 1-18

Master's Research

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Other

EDACE 916 - Foundations of Adult Learning and Leadership

Credits: 3

A study of adult learning and leadership historical perspectives, contemporary institutions and programs, teaching-learning process, administrative practices, and conceptual roles.

Repeat for Credit
N

Typically Offered
On sufficient demand

EDACE 920 - Educational Value Choices

Credits: 2

Students explore the prevalence of value choices confronting educational leaders in a community college setting, the influence personal values have on educational value choices, and the how educational leaders can maintain integrity in navigating the choices.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership.

Typically Offered
On sufficient demand

EDACE 921 - Field Study Ed Value Choices: Access, Equity, and Success

Credits: 1

Focuses on the practical application of leadership integrity in approaching educational value choices within a community college setting.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership. Corequisite: EDACE 920.

Typically Offered
On sufficient demand

EDACE 922 - Policy Formation and Public Process

Credits: 2

Designed to provide students with a thorough background to the principal public policy issues that are impacting American community college education. The background and analysis will be viewed through a specific theory of public policy and decision making as a means of structure.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership.

Typically Offered
On sufficient demand

EDACE 923 - Field Study Policy and Public Process

Credits: 1

The opportunity to: (1) examine the theory of public policy and political decision making; and (2) work in-depth on a chosen issue of public policy related to community college education

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership. Corequisite: EDACE 922

Typically Offered
On sufficient demand

EDACE 924 - Effective Governance and Leadership

Credits: 2

Investigate the contributory roles of all employees and employee structures within the framework of college governance.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership.

Typically Offered
On sufficient demand

EDACE 925 - Field Study Governance and Leadership

Credits: 1

Analyze identified problems in college governance; identify the role and responsibilities of key players in the development and implementation of policies and strategies; develop both detailed and wide-ranging response strategies to identified problems; and, implement a shared collective vision of problem solution.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership. Corequisite: EDACE 924

Typically Offered
On sufficient demand

EDACE 926 - Leadership for Transformation

Credits: 2

Explore change and transformation theory and practice in contemporary community colleges. A widely-used change process will be used as an anchor from which to examine in depth real-world transformation efforts underway in the community college.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership.

Typically Offered
On sufficient demand

EDACE 927 - Field Study Leadership for Transformation

Credits: 1

This field experience exposes students to change process,

transformation theory and practice in contemporary community colleges. Students will meet with current community college leaders who will address the change process, transformation, vision and strategy, champions, innovation, communication and celebration of successes in a community college setting.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership. Corequisite: EDACE 926.

Typically Offered
On sufficient demand

EDACE 928 - Designing a Comprehensive Plan for Success

Credits: 2

Designed to review and incorporate the tenets of a leadership framework for designing a desired transformation in a community college or district. Upon completion of this course, students will be able to identify, describe, and design the key components for planning, implementing, and evaluating an institutional transformation initiative to address a complex issue relevant to the college/district and the communities, state, or region it serves.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership.

Typically Offered
On sufficient demand

EDACE 929 - Field Study Plan for Success

Credits: 1

Provide an opportunity for students to reflect about challenges in introducing and institutionalizing desired culture change and effective best practices to develop the envisioned future. Students will identify and articulate leadership and organizational skills necessary for transformational work.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership. Corequisite: EDACE 928

Typically Offered
On sufficient demand

EDACE 930 - Implementing Leadership Competencies

Credits: 2

Students will identify the major competencies necessary to become a more effective and efficient leader and how these competencies align with those identified by the American Association of Community College Leaders (AACC). The course includes practical application of leadership, completing a self-assessment of core leadership competencies, and developing a personal leadership growth plan. Also, students will work in teams to develop a leadership institute that can be used in a community college setting.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership.

Typically Offered
On sufficient demand

EDACE 931 - Field Study (Institute) Leadership Competencies

Credits: 1

Provides students with the opportunity to participate daily in discussions, develop a leadership institute, engage in reflection activities, and participate in a process for effective interviewing.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership. Corequisite: EDACE 930

Typically Offered
On sufficient demand

EDACE 937 - Organization and Administration of Adult Learning and Leadership

Credits: 3

A critical study of organizational procedures and administrative practices as related to the implementation and maintenance of effective program for adults.

Repeat for Credit
Y

Typically Offered
Other

EDACE 940 - Adult Development and Learning

Credits: 3

Study all pertinent adult development theories.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDACE 960 - Introduction to Doctoral Studies

Credits: 3

Provides an overview of the course sequence and dissertation process. The objective is to start students preparing for their dissertation early so they can finish in a timely manner. This course also addresses work-life balance between being a leader, a student, and having a family and personal life outside of work.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDACE 970 - Dissertation Development

Credits: 4

Introduction to the essential organizational and writing skills required for completing a dissertation. Upon completion of this course, students will be able to identify and describe the key steps in developing and writing the dissertation proposal and dissertation.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership.

Typically Offered
On sufficient demand

EDACE 971 - Field Study Dissertation Development I

Credits: 1

Review the main components of the dissertation. Students will select the research topic under investigation and develop an argument that demonstrates the need for the study.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership. Corequisite: EDACE 970.

Typically Offered
On sufficient demand

EDACE 972 - Field Study: Dissertation Development II

Credits: 1

Designed to provide an overview of the writing and organization skills necessary for the completion of a literature review and research methodology germane to writing a dissertation. Upon completion of this the course, students will be able to design and conduct a literature review and research methodology that addresses the research topic under investigation.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the Ed.D. in Community College Leadership. Corequisite: EDACE 971

Typically Offered
On sufficient demand

EDACE 975 - Scholarly Writing

Credits: 3

Enables students to develop the writing skills they need to become successful writers in their academic and post-academic careers. Course topics focus on students' disciplines and include annotated bibliographies, critiques, and literature reviews.

Repeat for Credit
N

Requisites
Prerequisite: EDACE 960

Typically Offered
Fall, Spring, Summer

EDACE 980 - The Dissertation Process

Credits: 3

Dissertation proposal development is one of the major challenges encountered toward earning a doctoral degree. This course outlines the basic components of a dissertation study with a focus on the proposal—the dissertation's first three chapters. It then focuses on developing and writing chapter one. It is important that each student has a general idea for his or her dissertation research topic prior to the class start date. In addition to working with the course instructor, each student is expected to work closely with their major advisor.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDACE 986 - Advanced Seminars in Adult Learning and Leadership

Credits: 1-18

These seminars will critically consider recent research in the designated fields. The emphasis will be upon individual studies and small group interaction. Enrollment is restricted to those students who have been admitted to the doctoral program in education and who have completed substantial amounts of graduate study in the designated fields.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDACE 991 - Internship in Adult Learning and Leadership

Credits: 1-6

Field experiences in the development of programs in cooperating schools and educational or related agencies under the supervision of College of Education graduate faculty member.

Note
A maximum of six credit hours. Consent of instructor.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDACE 999 - Doctoral Research

Credits: 1-18

Doctoral Research

Repeat for Credit
Y

Typically Offered
Other

EDCEP 103 - Healthful and Safe College Life

Credits: 3

Addresses pertinent health education topics that impact college students and explores the effect of lifestyle choices on academic achievement. Topics include sexual health, mental health, nutrition and fitness, alcohol/drugs/tobacco, injury and illness prevention education.

Note
Not intended to replace the HN 352 Personal Wellness course when required in a curriculum.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

EDCEP 109 - Supplemental Instruction

Credits: 1

Peer-facilitated supplemental instruction that supports learning in affiliated course. Practice and development of study skills, learning strategies, and specific learning goals.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDCEP 110 - Study Skills and Strategies

Credits: 1-3

Assists first-year students in developing effective study skills, collaboration skills, and multicultural competencies. Prepares students for the independent learning and decision-making skills needed for their sophomore year and beyond.

Note
Recitation.

Repeat for Credit
Y

Typically Offered
Fall, Spring

EDCEP 111 - Foundations of College Student Success

Credits: 1-3

Introduction to academic strategies that promote college student success. Topics include academic skills, including communication and critical thinking, time management, academic and career planning and goal setting, and community building.

Repeat for Credit
Y

Requisites
Prerequisite: New students or instructor consent.

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility

EDCEP 120 - Academic and Career Decisions

Credits: 1

Addresses general principles of academic and career choice through lectures, class discussions, and individual research. Topics include decision-making models and principles; exploration of interests, abilities, and values through career assessments; and academic and career investigation using interactive software, library materials, online resources, and experiential learning opportunities.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Social Sciences

EDCEP 160 - Development and Integrity

Credits: 1

Provides a general overview of ethics and ethical decision making in academia and professional life. It is designed to help students better understand issues about academic misconduct, as well as several approaches to thinking about and resolving ethical dilemmas.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCEP 202 - Career and Life Planning

Credits: 2

Applies theory research concerning assessment interest and career choice-making to individual's planning and decision-making. Focuses on increasing understanding of the complexities of the world of work and on skills of integrating such understanding with each person's planning experience, characteristics, motives, and values in the career exploration process. Reviews resume writing, interviewing skills, and job search techniques.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Social Sciences

EDCEP 211 - Leadership Training Seminar

Credits: 2

General principles of leadership as applied to small groups. Study of the role of the leader, group processes and interaction, defining group goals, and techniques of observation. Workshop and supervision in small group leadership.

Note
Offered only at the Manhattan campus.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing and consent of instructor.

Typically Offered
Fall, Spring

EDCEP 311 - Interaction and Guidance for the Paraprofessional

Credits: 3

Application of a systematic approach to interaction skills in a paraprofessional helping relationship. Includes background knowledge of listening skills and practice in emitting skills which influence interaction quality.

Note
Consent of instructor.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing or sophomore standing

Typically Offered
Fall, Spring

EDCEP 360 - Peer Health Education and Leadership

Credits: 3

This course is intended as an academic exploration of social health and wellness concerns pertinent to the college student population. Using the principles of public health, peer educators will explore the importance of health-promoting behaviors in the prevention of disease. Students will examine social factors that may influence behaviors between their peers and obtain background knowledge in listening and communication skills.

Repeat for Credit
N

Requisites
Prerequisite: WellCAT Ambassadors Application and Informational Interview is required to enroll.

Typically Offered
Fall, Spring

K-State 8
Social Sciences
Ethical Reasoning and Responsibility

EDCEP 502 - Independent Study in Counseling and Educational Psychology

Credits: 1-3

Selected topics in professional education.

Note
Maximum of three hours applicable toward degree requirements. Consent of department chair.

Repeat for Credit

Y

Typically Offered
Fall, Spring, Summer

EDCEP 715 - Principles of Assessment

Credits: 3

Principles of development, administration, evaluation, and constructive instructional use of paper-pencil, product, and performance assessments. Focus on norm-and criterion-referenced uses of teacher-made and published measures as an integral part of effective decision making in education.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 315.

Typically Offered
Fall, Spring, Summer

EDCEP 775 - Readings in Counseling and Educational Psychology

Credits: 1-3

Readings in research and application in specialized areas in education.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDCEP 786 - Topics in Counseling and Educational Psychology

Credits: 1-3

Examination of current topic in specialization of faculty.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDCEP 795 - Problems in Counseling and Educational Psychology

Credits: 1-18

Selected students are permitted to secure specialized training appropriate to the needs of the individual. The student's project may involve intensive library investigation in a special field or the collection and analysis of data pertinent to a given problem. All work is done independently under the direction of a faculty member. As many conferences are held as necessary to assure successful completion of a project & nbsp.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDCEP 802 - Stress Management for Teachers, Counselors, and Administrators

Credits: 3

Systematic training in stress-management strategies and techniques for the professional educator and for use in classroom and counseling settings. Includes knowledge of self-directed and instrumental techniques, psychophysiology of stress, issues in stress management, and role of teacher and counselor in delivering stress-management training.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDCEP 810 - Mental Health in Schools

Credits: 3

Examines mental health and risk factors in the context of schools and student learning. Topics include: characteristics and behaviors of at-risk students; and prevention, intervention, and referral strategies to facilitate and promote mental health and a positive learning environment.

Repeat for Credit
N

Typically Offered
Summer

EDCEP 812 - History and Philosophy of Higher Education

Credits: 3

History and development of higher education with a study of the philosophy, objectives, and functions of various types of institutions.

Repeat for Credit
Y

Typically Offered
Fall

EDCEP 815 - Using Tests in Counseling

Credits: 3

Focus on the use of tests as an integral part of counseling. Emphasizes interpretation of scores, issues of psychological and educational measurement, and selection and evaluation of instruments.

Repeat for Credit
Y

Typically Offered
Spring

EDCEP 816 - Research Methods in Education

Credits: 3

This course is designed to provide students with an overview of quantitative and qualitative research methods in education and to equip them with the knowledge to be competent consumers and producers of educational research.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDCEP 817 - Statistical Methods in Education

Credits: 3

An introductory yet comprehensive survey of common statistical analyses encountered in educational research. Computer oriented.

Repeat for Credit
Y

Requisites
Prerequisite: A first course in college mathematics and STAT 702 or EDCEP 816.

Typically Offered
Fall, Summer

EDCEP 818 - Principles of Student Affairs Administration

Credits: 3

Principles of practice, current professional issues, and future trends in college and university student affairs administration

Repeat for Credit
Y

Typically Offered
Spring

EDCEP 819 - Survey Research

Credits: 3

Evaluation, interpretation, use, and production of survey research in education.

Repeat for Credit
Y

Requisites
Prerequisite: EDCEP 816

Typically Offered
Spring

EDCEP 821 - Fundamentals of Program Evaluation

Credits: 3

Theory, approaches, and fundamental skills for planning and implementing program evaluation; focus on research (and evaluation) designs and methods; includes evaluation professional standards and ethics.

Repeat for Credit
N

Requisites
Prerequisite: EDCEP 816 or equivalent.

Typically Offered
Fall

EDCEP 822 - Counseling Adolescents

Credits: 3

This is a foundation course for secondary school counselors and addresses issues relevant to secondary school counseling programs.

Repeat for Credit
N

Typically Offered
Summer

EDCEP 823 - Counseling Theory

Credits: 3

Theories, methods, and problems in counseling, relating the counseling process to dynamics of human behavior.

Repeat for Credit
Y

Typically Offered
Fall, Summer

EDCEP 824 - Development Across the Lifespan for School Counselors

Credits: 3

Advanced studies in physical, intellectual, emotional, social, and personality development across the lifespan with the focus on the importance of these factors to the educational process.

Repeat for Credit
Y

Typically Offered
Summer

EDCEP 826 - Student Success and Learning in Higher Education

Credits: 3

The purpose of this course is to provide an in-depth knowledge of the factors and circumstances that lead to college student success and learning in higher education. The most recent research in the field will be reviewed, meaning that the topics receiving the most attention via research will form the basis of the content for the course.

Repeat for Credit
N

Typically Offered
Fall

EDCEP 829 - Learning Principles

Credits: 3

Exploration of learning theories and an overview of research on factors that enhance academic performance, including psychosocial variables, learning styles, and learning strategies. The course covers strategies for enhancing student academic peformance, ranging from assessment to implementation.

Repeat for Credit
Y

Typically Offered
Spring

EDCEP 830 - Diversity in Higher Education.

Credits: 3

Addresses diversity in higher education administration and practice. Examples of topics examined in the context of diversity include recruitment and retention, program development, campus climate, and multicultural student organizations.

Repeat for Credit
N

Typically Offered
Summer

EDCEP 831 - Current Issues in Higher Education

Credits: 3

Current issues in higher education are examined. Students learn to identify current issues and how professional administrators effectively address these issues. Individual topics or issues that are part of the larger campus climate are studied.

Repeat for Credit
N

Typically Offered
Spring

EDCEP 832 - Counseling Techniques

Credits: 3

Practice basic helping skills common to the counseling profession using live supervision and videotape/transcription. Additional skills developed include problem conceptualization, goal setting, and selecting theoretically appropriate counseling interventions.

Repeat for Credit
N

Typically Offered
Spring

EDCEP 835 - Foundations of Academic Advising

Credits: 3

Examines the foundations of academic advising as essential componenents of student success and retention in higher education. Topics include developmental advising; research on academic advising; models and delivery systems; advising skills, including diverse populations; and evaluation, assessment, and reward systems for advisors and advising programs.

Repeat for Credit
Y

Typically Offered
Fall

EDCEP 836 - Interpersonal Relations for Academic Advising

Credits: 3

This course focuses on developmental communications/interpersonal relations skills for academic advisors. Topics to be addressed include influences on the helping process, such as personal characteristics, verbal and nonverbal responses and behaviors, and ethical considerations.

Repeat for Credit
N

Typically Offered
On sufficient demand

EDCEP 837 - Individualized Learning Experience in Higher Education

Credits: 3

The focus of this course is for students to gain a valuable experience in the summer to enhance the application of classroom learning to practical experience. Students can choose from three options to meet course requirements: complete a summer internship (e.g., NASPA, ACUHO-I, NODA, other institution), participate in a rotational program with Kansas State's Division of Student Life, or develop a special project with a faculty member (e.g., curriculum development, research activity) that results in a final product. The format of this course will allow the sharing of information with each other so that all may learn from others' experiences regardless of location.

Note
Consent of Instructor required to enroll.

Repeat for Credit
N

Typically Offered
Summer

EDCEP 838 - Student Development Theory

Credits: 3

Study of the American college student and how he/she is influenced by institutional policies, practices, and other environmental variables. Special attention will be given to contemporary student development theory and research.

Repeat for Credit
Y

Typically Offered
Fall

EDCEP 839 - Assessment of Academic Advising

Credits: 3

The role of quality academic advising is key to student success, graduation, and completion as identified in the research and literature on the undergraduate student experience. However, the quality and the effectiveness of the academic advising experiences must be assessed. This course will focus on a review of the foundations of academic advising, the key terms and processes of assessment, and the strategies and processes used to assess academic advising.

Repeat for Credit
N

Requisites
Prerequisite: EDCEP 816

Typically Offered
On sufficient demand

EDCEP 851 - Multicultural Aspects of Academic Advising

Credits: 3

This course introduces students to the various cultural, ethnic, racial, and linguistic issues associated with advising practice.

Repeat for Credit
Y

Typically Offered
Other

EDCEP 852 - Career Development for School Counselors

Credits: 3

Addresses the knowledge and competencies necessary for school counselors to use education, career, and labor market information resources, and career guidance and counseling techniques, methods, and technology in developing programs, services, and activities to meet the career development needs of students.

Repeat for Credit
Y

Typically Offered
Fall

EDCEP 854 - College Student Athletes

Credits: 3

Study of college student athletes. Topics include the role of intercollegiate athletics, pressures and challenges on student athletes, student development theory, life skills programming, National Collegiate Athletic Association policy, diversity, and gender issues.

Repeat for Credit
N

Typically Offered
Summer

EDCEP 855 - Professional Counseling Orientation and Ethical Practice

Credits: 3

Designed to provide an overview of ethics and legal issues in professional counseling. To understand different levels of analysis in evaluating ethical dilemmas and how to serve the client's needs while applying and implementing appropriate legal and ethical guidelines. Effective documentation, consultation, self-care, counselor transparency, and client participation to safeguard against the threat of litigation.

Repeat for Credit
N

Typically Offered
Spring

EDCEP 856 - Counseling Children

Credits: 3

The nature and philosophy of counseling in the elementary school; the function of specialized child appraisal and counseling techniques in the unique interrelationships of the professional school counselor and the teacher in the team approach to elementary school counseling.

Repeat for Credit
N

Typically Offered
Spring

EDCEP 857 - Counseling Program Management

Credits: 3

This course addresses the issues, knowledge, and competencies relevant to planning, implementing, and evaluating comprehensive school counseling programs to meet the needs of all students.

Repeat for Credit
Y

Typically Offered
Spring

EDCEP 858 - Group Processes

Credits: 3

Designed to acquaint students with group procedures as basic tools in counseling, guidance, and other education services.

Repeat for Credit
Y

Typically Offered
Fall, Summer

EDCEP 859 - Introduction to Research Synthesis and Meta-Analysis in the Social Sciences

Credits: 3

The course is an introduction to conducting systematic reviews of the literature and statistically analyzing the results. This course will focus on: (a) methods for conducting replicable, systematic reviews of the literature, and (b) statistical methods for analyzing the study effects (meta-analysis). Focus will be on examining studies with continuous, binary and correlations coefficient outcomes. Statistical methods will include fixed-effects, random-effects models, prediction intervals, meta regression, and publication bias. The course will emphasize basic theory and underlying
statistical methods, computational approaches, and the interpretation of results from published studies.

Repeat for Credit
N

Requisites
Prerequisite: EDCEP 817, EDCEP 917

Typically Offered
On Sufficient Demand

EDCEP 860 - Trauma and Crisis Counseling

Credits: 3

Study of children and adults and the educational, psychological, social, and career development issues they face as a result of trauma and post-traumatic stress. Particular emphasis will be given to counseling theories and best practices for working with students and clients experiencing these issues.

Repeat for Credit
N

Typically Offered
Fall, Summer

EDCEP 863 - Trends in Career Development

Credits: 3

This course addresses the role of work in people's lives across the life span, with an emphasis on the application of career development theories, research, practice, and resources to higher education. Topics are presented to help professionals in higher education facilitate students' academic and career development, planning, and decision-making within the context of the changing world of work.

Repeat for Credit

Y

Typically Offered
Spring

EDCEP 864 - Current Issues in Intercollegiate Athletics

Credits: 3

Examines policies and procedures of the NCAA, roles and responsibilities within a department of intercollegiate athletics the historical relationship between intercollegiate athletics and higher education institutions, the creation of the NCAA and its policies, roles and responsibilities within a department of intercollegiate athletics, and relevant research. Topics include student-athlete health and well-being, marketing, fundraising, external relations, sports information, coaching, and academic support.

Repeat for Credit
N

Typically Offered
Spring

EDCEP 867 - Counseling Mental Health Disorders

Credits: 3

An introduction to mental health disorders for counselors. Topics include assessment of mental health symptomology, using a diagnostic system to understand mental health issues, counseling strategies for working with individuals with diagnosed mental health issues, the impact of common medications used for mental health disorders, techniques for differentiating disordered and non-disordered behaviors, and promotion of mental wellness.

Repeat for Credit
N

Typically Offered
Spring

EDCEP 871 - Leadership, Advocacy, and Consultation for Counselors

Credits: 3

This course acquaints students with the major models of consultation that may be used by counselors for intervention with individuals and organizations. Techniques, issues and ethical considerations are also addressed.

Repeat for Credit
Y

Typically Offered
Spring

EDCEP 875 - Administration of College Student Personnel Services

Credits: 3

Planning, budgeting, personnel supervision and evaluation, office management, administrative use of computers, program evaluation and related applications in the primary college student personnel services.

Repeat for Credit
Y

Requisites
Prerequisite: EDCEP 818 and EDCEP 838.

Typically Offered
Fall

EDCEP 877 - Practicum in Counseling

Credits: 3

This is a developmental counseling skills course addressing influences on the helping process such as personal characteristics, theoretical orientation, verbal and nonverbal behaviors, and ethical considerations. Includes research applications, case conceptualization, evaluation, simulation, and supervised individual and group practice in the field.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

EDCEP 885 - Practicum in Higher Education

Credits: 3

Supervised practical experience in a higher education setting.

Repeat for Credit
Y

Requisites
Prerequisite: Completion of 18 credit hours in the M.S. in College Student Development program and consent of instructor

Typically Offered
Fall, Spring

EDCEP 886 - Seminar in Counseling and Educational Psychology

Credits: 1-18

Intensive discussion of a problem of current professional interest based on study of pertinent original literature.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDCEP 887 - Counseling Internship

Credits: 1-3

This supervised internship includes activities that a regularly employed school counselor would be expected to perform. The student will engage in individual counseling, group work, developmental classroom guidance, use within an ethical framework and a sensitivity to individual characteristics.

Repeat for Credit
Y

Requisites
Prerequisite: EDCEP 877 and consent of instructor

Typically Offered
Fall, Spring

EDCEP 898 - Master's Report

Credits: 1-18

Master's Report

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

EDCEP 899 - Master's Research

Credits: 1-18

Master's Research

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDCEP 917 - Experimental Design in Educational Research

Credits: 3

Philosophy, planning, and evaluation of research in education. Experimental designs appropriate for educational research with special emphasis on multivariate procedures. Computer oriented.

Repeat for Credit
Y

Requisites
Prerequisite: EDCEP 817.

Typically Offered
Spring, Summer

EDCEP 923 - Higher Education Law

Credits: 3

This course will provide students with an overview of legal issues in higher education, with an emphasis on legal developments and trends in student affairs administration in particular.

Repeat for Credit
N

Typically Offered
Spring-Even Years

EDCEP 924 - Theories of Vocational Counseling

Credits: 3

A historical and contemporary analysis of systems and theories of vocational psychology and their implications for use in the counseling setting.

Repeat for Credit
Y

Requisites
Prerequisite: EDCEP 852 or EDCEP 863.

Typically Offered
On sufficient demand

EDCEP 925 - Higher Education Finance

Credits: 3

The purpose of this course is to provide an overview of finance in higher education. Current challenges related to public funding of higher education, from both the federal and state government, will be addressed in this course. Additional focus will be devoted to the structure and function of financial aid systems as well as to options for the reform of those systems.

Repeat for Credit
N

Typically Offered
Spring-Even Years

EDCEP 926 - Enrollment Management in Higher Education

Credits: 3

Examines enrollment management theories, concepts, and research and the application of these to higher education administration. Students demonstrate enrollment management strategies through the development of a comprehensive enrollment management plan for use in a college or university setting.

Repeat for Credit
N

Typically Offered
Fall-Odd Years

EDCEP 927 - Higher Education Administration

Credits: 3

Administration theory applied to the organization and administration of colleges and universities; special reference to structure, governing boards, administrative roles, decision-making, and analysis of selected problems.

Repeat for Credit
Y

Typically Offered
Spring-Even Years

EDCEP 930 - Approaches to Academic Advising: Linking Theory, Research, and Practice

Credits: 3

This is an advanced study of foundational and emerging academic advising approaches. It aims to deepen student knowledge of the interdisciplinary scholarship and theory that underpin these approaches. Approaches will be from critical perspectives including applicability with different student groups and at different institutions; an evaluation of outcome research; and an exploration of assessment strategies.

Repeat for Credit
N

Requisites
Prerequisite: Admission to doctoral program Leadership in Academic Advising.

Typically Offered
Other

EDCEP 932 - Ethical Issues and Practice in Academic Advising

Credits: 3

This course explores ethical theories and principles, moral development frameworks, and value issues confronting academic advising leadership. It is based on the premise that all advising professionals are ethicists that make decisions every day. The course incorporates a comprehensive, interdisciplinary approach to ethical theories and practice in academic advising leadership.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the doctoral program Leadership in Academic Advising.

Typically Offered
Other

EDCEP 934 - Research in Academic Advising

Credits: 3

This course examines specific applications of theoretical, quantitative, qualitative, and mixed research methods in academic advising. The course provides a framework for the development of a research proposal directly related to critical questions in the field.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the Leadership in Academic Advising doctoral program.

Typically Offered
Other

EDCEP 937 - Administration of Academic Advising

Credits: 3

Examines and applies relevant theories, concepts, and models of academic advising, as well as issues and other factors related to the administration of academic advising in higher education.

Repeat for Credit
N

Typically Offered
On sufficient demand

EDCEP 948 - Advanced Student Development Theory in College Student Affairs

Credits: 3

In-depth examination of the major young adult and adult development models and their implications within the context of student affairs in higher education.

Repeat for Credit
Y

Typically Offered
Fall-Even Years

EDCEP 951 - Multicultural Counseling

Credits: 3

Adaptations of generic counseling skills to meet the needs of diverse populations.

Repeat for Credit
Y

Typically Offered
Summer

EDCEP 953 - Multicultural and Social Justice Issues in Counselor Education

Credits: 3

An examination of multicultural and social justice issues related to the practice of counselor education and supervision. Emphasis on evidence-based counseling practices for a diverse and pluralistic population.

Repeat for Credit
N

Typically Offered
Spring

EDCEP 955 - Legal and Ethical Issues in Counseling

Credits: 3

Examination of ethical standards developed by professional organizations of counselors. Current interpretations of standards and applications are developed through case studies, essays, reading, and literature review.

Repeat for Credit
Y

Typically Offered
Spring-Even Years

EDCEP 957 - Teaching and Learning in Counselor Education

Credits: 3

This course focuses on teaching and pedagogy of counselor education to improve delivery, teaching, and assessment of learning across modalities. This course focuses on understanding how learning works to effectively engage and teach counselors.

Repeat for Credit
N

Typically Offered
Summer

EDCEP 958 - Advanced Group Counseling

Credits: 3

The examination of selected group counseling theories and their relevance for the practice of group counseling in a variety of settings.

Repeat for Credit
Y

Requisites
Prerequisite: EDCEP 858.

Typically Offered
Spring

EDCEP 959 - Practicum in Group Counseling

Credits: 3

Supervised group counseling experience in a variety of settings.

Repeat for Credit
Y

Requisites
Prerequisite: EDCEP 858 and EDCEP 958.

Typically Offered
On sufficient demand

EDCEP 962 - Leadership and Advocacy in Counselor Education and Supervision

Credits: 3

An examination of leadership and advocacy issues related to the practices of counseling, counselor education, and counselor supervision. Emphasis on the development of ethical and culturally relevant leadership and advocacy practices.

Repeat for Credit
N

Typically Offered
Spring

EDCEP 967 - Appraisal and Psychopathology

Credits: 3

Advanced application of appraisal models and methods for use with clientele. Specific personality tests and classification systems will be addressed.

Repeat for Credit
Y

Requisites
Prerequisite: EDCEP 815 or admission into the Counselor Education and Supervision PhD program

Typically Offered
Spring-Even Years

EDCEP 977 - Advanced Counseling Practicum

Credits: 3

Intense supervised practice in counseling. Particular emphasis will be given to the development of skills for intervention into human problems and time-limited case management.

Repeat for Credit
Y

Requisites
Prerequisite: EDCEP 823, EDCEP 877, and EDCEP 887.

Typically Offered
Fall, Spring

EDCEP 985 - Advanced Counseling Theory

Credits: 3

Reading and analysis of primary sources in major counseling theories. Written reaction papers, presentations, discussion, and development of a major paper on a personal theory.

Repeat for Credit
Y

Requisites
Prerequisite: EDCEP 823 and EDCEP 887.

Typically Offered
Fall

EDCEP 986 - Advanced Seminar in Counseling and Educational Psychology

Credits: 3

These seminars will critically consider recent research in the designated fields. The emphasis will be upon individual studies and small group interaction.. Enrollment is restricted to those students who have been admitted to the doctoral program in education and who have completed substantial amounts of graduate study in the designated fields.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDCEP 987 - Counseling Supervision Practicum

Credits: 3

An advanced course in the theory, techniques, and problems of supervising persons being trained as counselors. Course emphasis is on actual supervisory experiences with beginning counselors. Open to advanced doctoral students only with consent of instructor.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDCEP 991 - Internship in Counseling and Educational Psychology

Credits: 1-18

Studies of and field experiences in the development of programs in cooperating schools and educational or related agencies under the supervision of Counseling and Educational Psychology graduate faculty members. A maximum of 6 credit hours may be chosen from the areas listed.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDCEP 999 - Doctoral Research

Credits: 1-18

Individual investigation in the field of a student's specialization.

Note

Sufficient training to carry on the line of research undertaken.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDCI 110 - Foundations of Education

Credits: 3

Examines the historical, political, philosophical, and sociological foundations of education in the United States including the evolution of career and technical education and changing demographics; ethical and legal issues; governance and financial support; and contemporary curriculum issues. Includes critical thinking and reflective decision making about educational issues.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Historical Perspectives
Human Diversity within the U.S.

EDCI 111 - Foundations of Rural Education

Credits: 4

Examines the historical, political, philosophical, and sociological foundations of education in the United States including the evolution of career and technical education and changing demographics; ethical and legal issues; governance and financial support; and contemporary curriculum issues. Includes critical thinking and reflective decision making about rural educational issues.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 112 - Foundations of Urban Education

Credits: 4

Examines the historical, political, philosophical, and sociological foundations of education in the United States including the evolution of career and technical education and changing demographics; ethical and legal issues; governance and financial support; and contemporary curriculum issues. Includes critical thinking and reflective decision making about urban educational issues.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 200 - Teaching as a Career

Credits: 1

Examines the roles, responsibilities, and dispositions of effective teachers; characteristics of the teaching/learning environment; the design of K-State's teacher education program; ways teachers change during their careers; and self-assessment about the commitment to teaching and preferences to grade levels or subject areas. An overview of the teacher education program is provided, the unit's conceptual framework is discussed, and the portfolio requirements are initiated. The skills of reflection and the dimensions of caring and ethical practice are introduced.

Repeat for Credit
N

Requisites
Prerequisite: Concurrent enrollment required in EDCI 230 and sophomore standing.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

EDCI 201 - Teaching as a Career in Rural Contexts

Credits: 2

Examines the roles, responsibilities, and dispositions of effective rural teachers; characteristics of the rural teaching/learning environment; the design of K-State's teacher education program; ways teachers change during their careers; and self-assessment about the commitment to teaching and preferences to grade levels or subject areas.

An overview of the teacher education program is provided, the unit's conceptual framework is discussed, and the portfolio requirements are initiated. The skills of reflection and the dimensions of caring and ethical practice are introduced.

Repeat for Credit
N

Requisites
Concurrent enrollment required in EDCI 230 and sophomore standing.

Typically Offered
Fall, Spring

EDCI 202 - Teaching as a Career in Urban Contexts

Credits: 2

Examines the roles, responsibilities, and dispositions of effective urban teachers; characteristics of the urban teaching/learning environment; the design of K-State's teacher education program; ways teachers change during their careers; and self-assessment about the commitment to teaching and preferences to grade levels or subject areas. An overview of the teacher education program is provided, the unit's conceptual framework is discussed, and the portfolio requirements are initiated. The skills of reflection and the dimensions of caring and ethical practice are introduced.

Repeat for Credit
N

Requisites
Concurrent enrollment required in EDCI 230 and sophomore standing.

Typically Offered
Fall, Spring

EDCI 230 - Early Field Experience

Credits: 1

Includes 40 hours of supervised field experiences examining selected aspects of teaching and the learning environment, including students and learning, content and pedagogy, planning, instruction, and professionalism. Requires written reports, analyses, and reflections for each weekly school visit.

Repeat for Credit
Y

Requisites
Corequisite: EDCI 200

Typically Offered
Fall, Spring

EDCI 300 - Principles of Coaching

Credits: 3

Physiological, psychological, and kinesiological principles of coaching. Topics include training and conditioning, motivation, psychological factors affecting sport skill in performance, and mechanical principles underlying sport performance.

Note
Not for kinesiology majors.

Repeat for Credit
N

Typically Offered
Fall, Spring

EDCI 301 - Coaching and Officiating Methodology

Credits: 3

Study of rules, theory, and practices; methods of coaching and officiating.

Repeat for Credit
N

Typically Offered
Fall, Spring

EDCI 311 - Current Issues in Education: Global Perspective

Credits: 3

Examines current issues in K-12 education from a global perspective. Introduction to the concept of global education and explore values, beliefs, behaviors, policies and customs from around the World.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 110

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives

EDCI 315 - Educational Psychology

Credits: 3

The application of psychological principles to the teaching-learning process with special emphasis on principles of learning, motivation, information processing, individual differences, and assessment.

Repeat for Credit
N

Requisites
Prerequisite: Admission to teacher education. Corequisite: EDCI 320

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility

EDCI 317 - Educational Technology for Urban Teaching and Learning

Credits: 2

This course introduces pre-service teachers to the use of contemporary instructional technologies to enhance instruction and to facilitate professional productivity. Attention is given to issues of access and diversity, with emphasis on the urban educational setting.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 318 - Educational Technology for Teaching and Learning

Credits: 1

Introduces pre-service teachers to the use of contemporary instructional technologies to enhance instruction and to facilitate professional productivity. Attention is given to issues of access and diversity.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 319 - Educational Technology for Rural Teaching and Learning

Credits: 2

Introduces pre-service teachers to the use of contemporary instructional technologies to enhance instruction and to facilitate professional productivity. Attention is given to issues of access and diversity in rural contexts.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 320 - Core Teaching Skills and Lab

Credits: 3

Examines instructional planning, differentiating instruction, direct and indirect instructional strategies, strategies to promote student understanding, managing lesson delivery, classroom management, assessing student performance, and working with colleagues and parents.

Note
Includes a lab session each week for detailed analysis of the issues and skill building.

Repeat for Credit
N

Requisites
Prerequisite: Admission to teacher education. Corequisite: EDCI 315

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility

EDCI 321 - Core Teaching Skills and Lab for Rural Education

Credits: 4

Examines instructional planning, differentiating instruction, direct and indirect instructional strategies, strategies to promote student understanding, managing lesson delivery, classroom management, assessing student performance, and working with colleagues and parents in rural education settings.

Repeat for Credit
N

Requisites
Prerequisite: Admission to teacher education. Corequisite: EDCI 315

Typically Offered
Fall, Spring, Summer

EDCI 322 - Core Teaching Skills and Lab for Urban Education

Credits: 4

Examines instructional planning, differentiating instruction, direct and indirect instructional strategies, strategies to promote student understanding, managing lesson delivery, classroom management, assessing student performance, and working with colleagues and parents in urban education settings.

Note
Includes a lab session each week for detailed analysis of the issues and skill building.

Repeat for Credit
N

Requisites
Prerequisite: Admission to teacher education. Corequisite: EDCI 315

Typically Offered
Fall, Spring, Summer

EDCI 361 - PK-12 PE Motor Skills and Game Development

Credits: 3

Equips future physical education teachers with the knowledge and skills to effectively teach motor skills and facilitate games in K-12 settings. Emphasizing developmentally appropriate practices, students will explore strategies for fostering motor skill acquisition, designing engaging lessons, and creating inclusive game-based learning experiences.

Repeat for Credit
N

Typically Offered
Fall

EDCI 365 - Problem-Based Learning and Computational Thinking in K-12 Schools

Credits: 3

This course will focus on the application of problem-solving practices, computational thinking skills, and the development of critical thinking processes as a way of engaging K-12 students in learning through interdisciplinary projects.

Repeat for Credit
N

Typically Offered
Fall

EDCI 368 - Teaching Computer Science in Elementary Schools

Credits: 3

Using block-coding students will participate in activities designed according to the research-based principles developed by the Raspberry Pi Foundation and the National Centre for Computing Education. Focus is placed upon developing concepts around variable, expressions, loops, and abstraction (VELA). Students will utilize a variety of unplugged to teach computing concepts. Students will also convert these activities into powerful lessons and units focused on real world examples of computing in our society.

Repeat for Credit

N

Typically Offered
Spring

EDCI 369 - Teaching Computer Science in Secondary Schools

Credits: 3

The course will provide participants with the knowledge and ability to develop coding-based units for grades 7-12 which focus on coding in both block and text-based languages. Using Scratch (block coding) and either java or python (text coding) students will develop lessons and units which are designed according to the research-based principles developed by the Raspberry Pi Foundation and the National Centre for Computing Education.

Repeat for Credit
N

Typically Offered
Spring

EDCI 381 - PK-12 PE Assessment and Measurements

Credits: 2

Provides an in-depth exploration of assessment principles and practices in PK-12 physical education. Emphasizing both theoretical foundations and practical applications, students will learn to design, implement, and analyze assessments that measure physical fitness, motor skills, cognitive understanding, and social-emotional learning in diverse student populations.

Repeat for Credit
N

Typically Offered
Spring

EDCI 400 - New Literacies in Contemporary Classrooms

Credits: 3

This course introduces general concepts of new literacies (i.e., the skills, strategies and dispositions needed to adapt to constantly changing information and communication technologies) along with innovative approaches to literacy instruction. In particular, the course will focus on the use of digital tools and multimodal texts to support reading comprehension, written and oral communication, visual literacy, global competence, and creative thinking/ problem solving in K-6 classrooms.

Repeat for Credit
N

Typically Offered
Fall, Spring

EDCI 405 - Middle-Level Education

Credits: 2

This course provides an overview of the characteristics of middle schools; the social, psychological, and physical characteristics of early adolescent development; middle-level curriculum; ways to organize for instruction; and the teacher's role in the guidance of students at the middle level.

Repeat for Credit
N

Requisites
Prerequisite: Admission to teacher education.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

EDCI 420 - Instructional Methodologies and Assessments for ELLs

Credits: 3

Focuses on bilingual and second language acquisition theories and classroom specific instructional methodologies, and culturally responsive assessments for EL students within PreK-12 settings. Special emphasis is placed on the frameworks of teaching, learning, and assessment within diverse settings, lesson planning, cooperative learning structures, and scaffolding techniques for ELLs. Various tenets of historical as well as contemporary philosophies, approaches, methods, and strategies within the field of Bilingual Education and Second Language Acquisition are presented. Practical tips

and ideas are provided for classroom specific modifications and rigorous and meaningful transfer from instruction to culturally-embedded assessment practices within PreK-12 settings.

Repeat for Credit
N

Typically Offered
Fall or Spring

EDCI 427 - Overview of Educational Studies

Credits: 3

An exploration of transition to the field of education and educational studies,identifying elements of effective transition, instruction, and support. This course identifies how our social and professional backgrounds and previous experiences affect us during thet ransitional process.

Note
Miss spelled "that transitional"

Repeat for Credit
N

Typically Offered
Spring

EDCI 431 - Applied Linguistics for Diverse Settings

Credits: 3

This course explores the theoretical underpinnings of language acquisition and linguistics. The main emphasis of the course is on linguistic issues within bilingualism, multilingualism, translanguaging, discourse analysis, literacy development, different levels of language and their implications for instructional modifications at the classroom level.

Repeat for Credit
N

Typically Offered
Spring

EDCI 440 - Cultural and Linguistics Accommodations for Diverse Settings

Credits: 3

Focuses on the fundamentals of culturally and linguistically relevant practices for today's diverse classrooms. Special emphasis is placed on ways to navigate and create culturally responsive ecologies of learning and provide meaningful core instruction and the needed accommodations for diverse learners within PreK-12 settings. Through a critical cultural lens, students will examine the historical and contemporary efforts and approaches for advocacy, inter-cultural interactions, acculturation vs. social differentiation, various diversity perspectives and initiatives, and the importance of transformative practices and critical consciousness within our schools and society.

Repeat for Credit
N

Typically Offered
Spring

EDCI 442 - Principles and Practices in Social Justice Education

Credits: 3

This course focuses on the core societal pillars of education, employment, housing, and entrepreneurship as means to advance and guarantee a socially just framework that is equitable, reachable, and sustainable for 21st-century modern society. Students will engage in positionality self-audits, build critical cultural consciousness by analyzing societal changes and transformations, develop culturally sensitive practices to question and dismantle policies surrounding bias and privilege, and challenge systemic inequities.

Repeat for Credit
N

Typically Offered
Fall or Spring

Cross-listed
No

EDCI 445 - English as a Second Language Practicum PK-12

Credits: 3

As a capstone course, ESL practicum is a portfolio-based

learning experience providing students a chance to showcase and highlight their theoretical perspectives regarding ESL, Bilingual Education, Second Language Acquisition, and Cultural and Linguistic accommodations within diverse settings. This course will also ask students to make theory to practice connections as they plan modifications and adaptations for their diverse learners within PreK-12 settings.

Repeat for Credit
N

Requisites
Prerequisites: EDCI 420; EDCI 431; EDCI 440

Typically Offered
Spring

EDCI 505 - Introduction to Education Technology

Credits: 3

Examines the roles that technology, teachers, and learners may take in any educational context; ways of integrating technology into teaching and learning; and issues involved in using technology in K-12 settings.

Repeat for Credit
N

Typically Offered
Summer

EDCI 506 - Instructional Systems Design

Credits: 3

Examines ways to design instructional modules based on key principles of instructional systems design.

Repeat for Credit
N

Typically Offered
Summer

EDCI 507 - Evaluating Educational Media Products

Credits: 3

Employs project-based and collaborative learning strategies to help participants internalize vital considerations and criteria with respect to evaluating educational media products for potential integration into teaching and learning. After being introduced to key concepts, principles, and theories related to learners and their characteristics, learning and cognition, and instructional contexts, standards, objectives, and strategies, participants work towards building their ideal instruments/tools to evaluate the potential of various educational media products to support effective teaching and meaningful learning.

Repeat for Credit
N

Typically Offered
Summer

EDCI 508 - Social/Cultural Issues in Educational Technology

Credits: 3

Addresses social and cultural issues pertaining to the integration of educational and communications technologies (ECT) into teaching and learning; examines concerns relating to equitable access to ECT; explores the impact of ECT adoption and use upon diverse social/cultural groups; and addresses designing and developing culturally cognizant, appropriate, and relevant ECT.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 507

Typically Offered
Summer

EDCI 510 - Effective Communication in Educational Settings

Credits: 3

This course introduces students to the theories, dynamics, and interventions for effective communication and conflict resolution within educational and/or K-12 settings and among educational stakeholders

Repeat for Credit

N

Typically Offered
Spring

EDCI 514 - Leveraging Data in Ed. Settings

Credits: 3

This course offers the foundational understandings of data in education. The course introduces contemporary concepts of data, big data, and the emerging concept as well as field of study--educational data.The course covers uses of data to inform decisions and actions with an emphasis on educational data and the practice of ethically leveraging data to benefit the broad set of stakeholders, promoting equity, diversity, and inclusion in educational settings.

Repeat for Credit
N

Typically Offered
Spring

EDCI 515 - Educational Policy

Credits: 3

This course offers an analytical foundation for students interested in PK-12 education and educational public policy implementation within those settings. Drawing on social science research, the course examines the strengths and limitations of various education reform initiatives at the federal, state, and local levels. We will also apply analytical concepts to school reform issues. This course is designed to introduce students to a variety of educational policy strategies aimed at improving the quality of teaching and learning in PK-12 settings. It aims to help students build a rich framework for analyzing policies of various types, both theoretically and methodologically.

Repeat for Credit
N

Typically Offered
Summer

EDCI 550 - Schooling and Popular Culture

Credits: 3

An examination of the symbiotic relationship of American public schools and American popular culture. The course will consider how schools are reflected in the popular culture and how the representation of schooling in popular culture affects public opinion, public policy, and schools themselves.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 580 - Internship in Educational Studies

Credits: 6-9

The internship is the culminating experience for the Bachelor of Science degree in Educational Studies (B.S.E.S.). Depending upon student academic and career interests, and in consultation with the program advisor and the faculty advisory committee, the student will receive a placement in an appropriate public or private site to serve a professional internship.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 581 - Ethnographic Capstone Project in Rural Education

Credits: 2

This project-based course will be completed during the Professional Semester. Students will explore the demographic composition of a school community in a rural setting. They will develop an individual project to demonstrate application of knowledge and skills gained throughout the Rural Education program.

Note
Admission to Professional Semester

Repeat for Credit
N

Typically Offered
Fall, Spring

EDCI 582 - Ethnographic Capstone Project in Urban Education

Credits: 2

This project-based course will be completed during the Professional Semester. Students will explore the demographic composition of a school community in an urban setting. They will develop an individual project to demonstrate application of knowledge and skills gained throughout the Urban Education program.

Note
Admission to Professional Semester.

Repeat for Credit
N

Typically Offered
Fall, Spring

EDCI 588 - Supervised Practicum for Athletic Coaches

Credits: 3

Observation and coaching participation under the direction of selected coaches in public school, club, city recreation, or other nonpublic school sport settings.

Repeat for Credit
Y

Requisites
Prerequisites: EDCI 300. Co-Requisite: EDCI 301, FNDH 220

Typically Offered
Fall, Spring, Summer

EDCI 700 - Introduction to Bilingual/Dual Language Education

Credits: 3

This course focuses on the history and foundations of bilingual/DL education, as well as an in-depth examination of contemporary programming models and trends in bilingual education. The dynamics of bilingualism at the individual, system, and societal levels will also be an emphasis of study.

Repeat for Credit
N

Typically Offered
Fall, Summer

EDCI 701 - Administration and Supervision of Vocational Education

Credits: 2-3

Emphasis on the duties and responsibilities of administrative and supervisory personnel responsible for the promotion, development, and coordination of comprehensive vocational-technical education programs at the local level.

Repeat for Credit
N

Typically Offered
On sufficient demand

EDCI 702 - Curriculum, Instruction, and Assessment

Credits: 3

Develops core concepts and skills necessary for effective teaching in elementary and secondary schools. The course examines curriculum, pedagogy, and assessment techniques.

Repeat for Credit
N

Typically Offered
Summer

EDCI 703 - MAT Secondary Math Methods

Credits: 3

Principles of teaching applied to mathematics instruction in the secondary and middle school including: motivation, organization of subject matter, lesson/unit planning, assessment and reporting, organization and management of the classroom, and methodology and materials of the secondary and middle schools.

Repeat for Credit
N

Typically Offered
Fall

EDCI 704 - Science Methods and Practicum for Teaching and Learning

Credits: 3

This course addresses principles of teaching applied to science instruction in the secondary school. These principles include: motivation, organization of subject matter, lesson planning for direct, inquiry, and social/personal instructional emphases; assessment, meeting the needs of individual students; organization and management of the classroom; and methodology and materials of the secondary school science curriculum.

Repeat for Credit
N

Typically Offered
Fall, Spring

EDCI 705 - MAT Social Studies Methods

Credits: 3

Principles of teaching applied to social studies instruction in the secondary and middle schools including: motivation, organization of subject matter, lesson/unit planning, assessment and reporting, organization and management of the classroom, and methodology and materials of the secondary and middle schools.

Repeat for Credit
N

Typically Offered
Fall

EDCI 706 - MAT Secondary English/Language Arts

Credits: 3

Principles of teaching applied to language arts instruction in the secondary and middle schools including: motivation, organization of subject matter, lesson/unit planning, assessment and reporting, organization and management of the classroom, and methodology and materials of the secondary and middle schools.

Repeat for Credit
N

Typically Offered
Fall

EDCI 707 - FACS Methods and Practicum for Teaching and Learning

Credits: 3

This course focuses on the principles of teaching applied to Family and Consumer Sciences instruction; organization of subject matter, unit and lesson planning, evaluation and assessment, classroom management, motivation, learning styles, methodology and materials related to teaching Family and Consumer Sciences in the middle school and secondary classroom.

Repeat for Credit
N

Typically Offered
Fall

EDCI 708 - Business Methods and Practicum for Teaching and Learning

Credits: 3

Principles of teaching applied to business education instruction in the secondary and middle schools including: motivation, organization of subject matter, lesson/unit planning, assessment and reporting, organization and management of the classroom, and methodology and materials of the secondary and middle schools.

Repeat for Credit
N

Typically Offered
Fall

EDCI 709 - Agricultural Education Methods and Practicum for Teaching and Learning

Credits: 3

Principles of teaching applied to agriculture education instruction in the secondary and middle schools including: motivation, organization of subject matter, lesson/unit planning, assessment and reporting, organization and management of the classroom, and methodology and materials of the secondary and middle

schools.

Repeat for Credit
N

Typically Offered
Fall

EDCI 710 - Social Foundations of K-12 Education

Credits: 3

Examines the historical, political, philosophical, economic, legal, and sociological intersections of public education in the United States of America; emphasizes freedom, democracy, truth, power, and choice as core concepts of social change and social justice.

Repeat for Credit
N

Typically Offered
Fall, Spring

EDCI 711 - Art Methods and Practicum for Teaching and Learning

Credits: 3

Principles of teaching applied to art instruction in the secondary and middle schools including: motivation, organization of subject matter, lesson/unit planning, assessment and reporting, organization and management of the classroom, and methodology and materials of the secondary and middle schools. Field-based experience to help the pre-professional teacher practice the incorporation of art with reading methods and demonstrate application of technology into teaching and assessment in the secondary and middle schools.

Repeat for Credit
N

Typically Offered
Fall

EDCI 712 - MAT Foreign Language Methods

Credits: 3

Principles of teaching applied to modern language instruction in the secondary and middle schools including: motivation, organization of subject matter, lesson/unit planning, assessment and reporting, organization and management of the classroom, and methodology and materials of the secondary and middle schools.

Repeat for Credit
N

Typically Offered
Fall

EDCI 714 - Reading in the Bilingual/DL Classroom

Credits: 3

The course will focus on evidence based instructional literacy and reading skill development among learners in bilingual/DL programs.

Repeat for Credit
N

Typically Offered
Spring, Summer

EDCI 715 - Literacy and Diverse Learners in the Content Areas

Credits: 3

An examination of contemporary literacy and diverse learners in the secondary school content areas in light of learning theory and adolescents' stages of development.

Note
Course is designed for classroom middle level and secondary teachers.

Repeat for Credit
N

Typically Offered
Summer

EDCI 716 - Teaching Diverse Learners

Credits: 3

Examines teaching in a culturally diverse society.

Emphasizes historically underrepresented students, culturally and linguistically diverse learners, abilities, exceptionalities, gender, religion, socioeconomic status, sexual orientation and preference. Additionally, this course explores environments that are healthy, respectful, supportive, and challenging for all students.

Repeat for Credit
N

Typically Offered
Summer

EDCI 718 - Introduction to Educational Technology

Credits: 3

This course examines the roles that technology, teachers, and learners may take in any educational context: ways of integrating technology into teaching and learning; and issues involved in using technology in K-12 settings.

Note
Course is offered on the Web.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 720 - ESL/Dual Language Methods

Credits: 3

An exploration of contemporary approaches, methods, and strategies for the appropriate instruction of second language learners. Also provided is a foundational perspective on ESL/Dual Language approaches, including the communicative, cognitive, and grammatical.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall, Summer

EDCI 721 - Learning Strategies and Study Skills

Credits: 3

An exploration of research-based strategies for empowering learners and connecting contemporary youth with the skills needed to develop mental stamina and engage in cross-disciplinary academic tasks.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing or greater.

Typically Offered
On sufficient demand

EDCI 723 - Computer Applications in Subject Areas

Credits: 1-3

Theory and practice of using computer software to enhance teaching and learning in specific subject areas. Subjects covered will vary.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing.

Typically Offered
On sufficient demand

EDCI 724 - Fundamentals of Teaching Music

Credits: 1

Techniques, materials, and experiences for a variety of music classes will be examined through discovery. Furthermore, lesson plan development, writing, and implementation will be examined in detail.

Repeat for Credit
N

Typically Offered
Fall, Spring

EDCI 725 - Music Methods for Elementary Schools

Credits: 1

The study of the musical characteristics of children and development of appropriate curriculum, instructional materials and techniques, and related technology for teaching musical understanding, literacy, multicultural connections, and creative improvisation in grades K-6 instrumental, vocal, and general music.

Repeat for Credit
N

Typically Offered
Spring

EDCI 726 - Music Program in Middle and Secondary Schools

Credits: 1

Organization and administration of the comprehensive music program in middle and secondary high schools; including the study of vocal and instrumental ensemble development, as well as techniques, materials and appropriate instructional technologies.

Repeat for Credit
N

Typically Offered
Fall

EDCI 727 - Advanced Methods in Music Education

Credits: 1

Advanced instructional methods and technologies related to the teaching of music in grades preK-12 implemented through field experiences.

Repeat for Credit
N

Typically Offered
Fall, Spring

EDCI 729 - Middle-Level Mathematics for Teachers

Credits: 3

This course reviews math concepts, problems and applications to help prepare teachers to pass the Middle School Mathematics Praxis Exam. The course helps teachers gain pedagogical content knowledge in relation to teaching mathematics.

Repeat for Credit
N

Typically Offered
Fall, Summer

EDCI 730 - Education of the Disadvantaged

Credits: 3

Consideration of the life-space of the disadvantaged learner and its relationship to curriculum, organization, and interpersonal relationships in schools. The development of realistic, relevant goals for the teacher of the disadvantaged.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
On sufficient demand

EDCI 731 - ESL/Dual Language Linguistics

Credits: 3

Explores the theoretical underpinnings of language acquisition and linguistics that educators need to understand, in order to better plan appropriately adapted curriculum and instruction for second language learners. The course encompasses problematic aspects of English language learning, the ways in which languages may differ, and certain universal aspects of languages.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall, Summer

EDCI 735 - Gender Implications for Education

Credits: 3

Implications of the research based on sex-role stereotyping in educational institutions. Examination of resource materials, teaching strategies, and policies intended to facilitate non-sexist educational environments.

Repeat for Credit
N

Typically Offered
On sufficient demand

EDCI 737 - Practicum in Business and Office Occupations

Credits: 1-6

Related occupational or professional experiences in approved industry, school, Cooperative Extension Service, or similar agency setting under faculty supervision.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDCI 740 - Culture and Language in Classroom Practice

Credits: 3

Examines ways teachers can address diversity in their classrooms with attention to issues such as critical reflection on practice; effective collaboration with families; diversification of the learning environment; use and adaptation of the grade-level curriculum; the differentiation of classroom instruction for cultural and linguistic diversity; and advocacy skill development.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Spring

EDCI 742 - ESL/Dual Language Assessment

Credits: 3

An in-depth examination of key issues/challenges in the appropriate language assessment of culturally and linguistically diverse students. Among focal topics in theory, research and practice discussed will be: pre-and post-instructional assessment, authentic and alternative assessment, language testing and placement for programming in ESL/Dual language classrooms.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Spring, Summer

EDCI 745 - ESL/Dual Language Elementary Practicum

Credits: 3

The practicum is a portfolio-based experience providing the student with application experiences in ESL/Dual Language methods, assessment, and multicultural competence as well as the opportunity to demonstrate understanding of second language acquisition. Students will be required to spend 60 hours in a school setting where they can practice and implement ESL/BE lessons/methodology.

Repeat for Credit
Y

Requisites
Prerequisite: EDCI 720, EDCI 731, EDCI 742, and EDCI 733 or EDCI 740.

Typically Offered
Fall, Spring

EDCI 746 - ESL/Dual Language Secondary Practicum

Credits: 3

The practicum is a portfolio-based experience providing the student with application experiences in ESL/Dual Language methods, assessment, and multicultural

competence as well as the opportunity to demonstrate understanding of second language acquisition. Students will be required to spend 60 hours in a school setting where they can practice and implement ESL/BE lessons/methodology.

Repeat for Credit
Y

Requisites
Prerequisite: EDCI 720, EDCI 731, EDCI 742, and EDCI 733 or EDCI 740.

Typically Offered
Fall, Spring

EDCI 755 - Multicultural Issues in Teaching

Credits: 3

Examines the socio-cultural forces that influence the American educational system. Considers curriculum and instruction implications of human differences, and analyzes ways to promote equitable, quality education.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing.

Typically Offered
Fall

EDCI 756 - Tradebooks Across the Curriculum

Credits: 3

This course examines the use of children's literature in the K-8 literacy classroom. It focuses on recently published books in several literary genres across curricular areas.

Repeat for Credit
N

Typically Offered
Spring, Summer

EDCI 758 - Reading/Writing Connections

Credits: 3

This course examines teaching language arts in an integrated manner, exploring the relationships between reading and writing from a developmental perspective. Teaching methods for a holistic environment are highlighted.

Repeat for Credit
N

Typically Offered
Summer

EDCI 760 - Action Research in Education

Credits: 3

This course introduces the theoretical and practical dimensions of school-based action research about curriculum and instruction topics, and students conduct an action research project. Access to the research site is required.

Repeat for Credit
N

Typically Offered
Fall

EDCI 764 - Engineering Design Practices in Secondary Science Teaching

Credits: 3

This course prepares secondary science teachers to integrate engineering design practices at the same level as scientific inquiry in alignment with the Next Generation Science Standards (NGSS). Integration of practices in the curriculum is required for licensure in science disciplines. Evidence of proficiency includes instructional design, assessment, evaluation, and practicum experiences. Emphasis is placed on specifying criteria and constraints for acceptable solutions; generating and evaluating multiple solutions; building and testing prototypes; and optimizing solutions through an iterative process.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 765 - Contemporary Pedagogies for Teaching Computer Science

Credits: 3

This course provides a knowledge base of computer science teaching practices addressing, diversity, equity, and inclusion, problem-based instruction, engineering design, assessment, and feedback. Focused activities address the twelve research-based principals of teaching and learning computing as identified by the National Centre for Computing Education. The course will introduce PBL strategies such as concept mapping, learning graphs, code tracing, parson's problems, and modeling.

Repeat for Credit
N

Typically Offered
Summer

EDCI 768 - Teaching Computer Science in Elementary Schools

Credits: 3

Using block-coding students will participate in activities designed according to the research-based principles developed by the Raspberry Pi Foundation and the National Centre for Computing Education. Focus is placed upon developing concepts around variable, expressions, loops, and abstraction (VELA). Students will utilize a variety of unplugged activities to teach computing concepts. Students will also convert these activities into powerful lessons and units focused on real world examples of computing in our society.

Repeat for Credit
N

Typically Offered
Fall

EDCI 769 - Teaching Computer Science in Secondary Schools

Credits: 3

The course will provide participants with the knowledge and ability to develop coding-based units for grades 7-12 which focus on coding in both block and text-based languages. Using Scratch (block coding) and either java or python (text coding) students will develop lessons and units which are designed according to the research-based principles developed by the Raspberry Pi Foundation and the National Centre for Computing Education.

Repeat for Credit
N

Typically Offered
Fall

EDCI 770 - Advanced Approaches in World Lang Ed

Credits: 3

The study of contemporary approaches, methods, and research-based best practices for world language instruction. Provides a venue to analyze and discuss programmatic and curricular decisions and how that impacts teaching and learning.

Repeat for Credit
N

Requisites
Prerequisite: EDSEC 540 and EDSEC 541.

Typically Offered
On sufficient demand

EDCI 771 - Assessment in World Language Education

Credits: 3

The course will study how to create, implement, and analyze world language assessments to enhance instruction and support learning

Repeat for Credit
N

Requisites
Prerequisite: EDCI 770

Typically Offered
Fall, Spring, Summer

EDCI 772 - Current Trends and Research in World Language Education

Credits: 3

Analyze current trends in world language education. Recent research will be stressed. Explore how this applies to

curricular and instructional decisions.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 773 - Contemporary Technology in World Language Education

Credits: 3

The course will study pedagogical implications of instructional technologies to enhance and support world language education. There will be a focus on the constant evolution of technology and how it can enhance the teaching and learning of world language education.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 775 - Readings in Curriculum and Instruction

Credits: 1-3

Readings in research and application in specialized areas in education.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall, Spring, Summer

EDCI 776 - Teaching in Middle Schools

Credits: 3

Several instructional approaches consistent with the characteristics of the emerging adolescent student (grades 5-9) will be examined in relation to current research. Direct development of alternative curricular programs. Appropriate use of interdisciplinary activities and nontraditional materials will be emphasized.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 315.

Typically Offered
On sufficient demand

EDCI 779 - Primary School Education

Credits: 3

A course for those interested in the kindergarten and primary school child. Emphasis will be placed on curriculum development, pertinent research, and innovative practices in early education.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing.

Typically Offered
Summer

EDCI 781 - Teaching the Theoretical Foundations of Constitutional Government

Credits: 1

Examines the theories (e.g., natural rights, classical republicanism, and constitutionalism) and theorists (e.g., Aristotle, Locke, Hobbes, and Montesquieu) that most influenced constitutional thinking in the United States. Explores how to teach effectively about these theories and theorists.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 782 - Teaching the Historical Origins of Constitutional Government

Credits: 1

Examines seminal ideas, documents, and events in the

creation of the United States Constitution such as problems with the Articles of Confederation, the characteristics of good government, the debates at the Philadelphia Convention, the Federalist Papers, and the Antifederalist Papers. Explores how to teach effectively these ideas, document, and events.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 783 - Teaching the Development of Constitutional Principals

Credits: 1

Examines the development of political ideas and constitutional thinking since the Founding. Focuses on how the Bill of Rights, the amendment process, judicial review, and the Fourteenth Amendment are used to empower and limit government. Explores how to teach effectively about developments in constitutional thought.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 784 - Teaching the Institutions of Government

Credits: 1

Examines the powers, limits, and development of political institutions such as Congress, the President, the Supreme Court, and political parties. Explores how to teach effectively about these institutions.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 785 - Teaching the Bill of Rights

Credits: 1

Examines the rights protected by the United States Constitution and the ways that rights protected by the United States Constitution and the ways that rights empower citizens, limit government, and contribute to constitutional government. Explores how to teach effectively about rights.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 786 - Topics in Curriculum and Instruction

Credits: 1-3

Examination of current topic in area of specialization of faculty.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall, Spring, Summer

EDCI 787 - Teaching Citizenship

Credits: 1

Examines development of the rights, responsibilities, and challenges of citizenship in the United States. Explores how to teach effectively about citizenship.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 788 - Teaching the Constitutional Principles of America's Founders

Credits: 3

Develops constitutional principles; explores perspectives of constitutional interpretation, change, and preservation; raises questions about the immediate and enduring significance of America's founding principles and

documents; and introduces sound pedagogical practices to teach about them.

Repeat for Credit
N

Typically Offered
Fall

EDCI 789 - Methods and Materials in Civic Education

Credits: 3

Focuses on the pedagogical aspects of civic education and engagement such as research-based approaches to concept attainment, skill development, discussion, and deliberation as well as analysis of curriculum materials and programs that apply these pedagogies.

Repeat for Credit
N

Typically Offered
Spring

EDCI 790 - Engaged Citizens: Public Policy Issues and Processes

Credits: 3

Examines the teaching of the workings of constitutional government through the lens of the public policy making processes and the roles of individual voters, organized public, the media, and state and local governments in that process.

Repeat for Credit
N

Typically Offered
Summer

EDCI 791 - Teaching Science and Mathematics in the Elementary School

Credits: 4

Develops knowledge, skills, and dispositions to effectively teach elementary science and mathematics. Introduces content, methods, and materials. Explores curriculum integration.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 702

Typically Offered
Fall, Spring, Summer

EDCI 792 - Teaching Social Studies, Reading, and Literacy in the Elementary School

Credits: 4

Develops knowledge, skills, and dispositions to effectively teach elementary social studies, reading, and language arts. Introduces content, methods, and materials. Explores curriculum integration.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 702

Typically Offered
Fall

EDCI 793 - Teaching Health, Movement, and Fine Arts in Elementary Schools

Credits: 4

Develops knowledge, skills, and dispositions to effectively teach health, movement, and fine arts. Introduces content, methods, and materials. Explores curriculum integration.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 702

Typically Offered
Spring

EDCI 794 - Advanced Methods of Teaching

Credits: 3

Examines popular theories, important principles, research-

based strategies, and best practices associated with effective teaching. Provides a venue to apply theory to practice; connect ideas and action; and link content and pedagogy.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 795 - Problems in Curriculum and Instruction

Credits: 1-18

Independent study of a specific problem in curriculum or instruction.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDCI 796 - Brain-Based Literacy Instruction

Credits: 3

This course provides advanced study of theory and research regarding literacy acquisition related to brain development and function. The intended audience includes K-12 regular classroom teachers, reading teachers, resource room teachers, teacher aides, and other professionals concerned with meeting the literacy needs of children and young adults. The following topics are covered in the course: Cognitive functions, memory systems, sensitive/critical periods for brain development related to literacy, implications for classroom environment and stress upon student performance, executive functions and research-based instructional strategies found to increase student performance.

Repeat for Credit
N

Typically Offered
On sufficient demand

EDCI 797 - Secondary Content Field Colloquium I

Credits: 2

This course is designed to explore key concepts within the secondary content field. Focus will be on advancing the development of disciplinary content knowledge and pedagogical content knowledge.

Repeat for Credit
N

Typically Offered
Summer

EDCI 798 - Secondary Content Field Colloquium II

Credits: 2

This course is designed to explore additional key concepts within the secondary content field. Focus will be on advancing the development of disciplinary content knowledge and pedagogical content knowledge.

Repeat for Credit
N

Typically Offered
Fall

EDCI 799 - Secondary Content Field Colloquium III

Credits: 2

Class explores the content knowledge of the candidate in regards to the middle and secondary content curriculum, identifies areas of strength and weakness in content knowledge, and provides enrichment and remediation to prepare the candidate for the internship experience.

Repeat for Credit
N

Typically Offered
Intersession

EDCI 800 - Teaching Practicum

Credits: 1-6

Participate in supervised field experience in K-12 schools. Apply principles of curriculum, instruction, and assessment

to plan, teach, and reflect.

Repeat for Credit
N

Typically Offered
Fall

EDCI 801 - Internship in K-12 Schools

Credits: 1-4

Supervised experience teaching in discipline-specific K-12 school classrooms.

Note
Instructor permission.

Repeat for Credit
Y

Typically Offered
Fall, Spring

EDCI 803 - Curriculum Development

Credits: 3

An overall view of the entire school curriculum, patterns of organization, outlining of instructional fields, and specific helps in curriculum development for administrators and classroom teachers.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDCI 812 - History of Education

Credits: 3

The history of education is explored critically through multiple perspectives. Complex forces governing changes in education are exposed--forces that are felt but unseen. By studying historical contexts, much about schooling today is seen as problematic and open to question--not as inevitable. This study pushes past a passive acceptance of the status quo via a vigorous, fresh analysis.

Repeat for Credit
N

Typically Offered
Spring

EDCI 813 - Comparative Philosophies of Education

Credits: 3

Philosophical thought in education is examined critically through multiple perspectives. The learning environment, the role of the learner, and the role of the teacher are issues central to analysis in the course as they manifest themselves in learning and teaching for social change and social justice. The questions of what are freedom, democracy, truth, power, and choice are central to the examination.

Repeat for Credit
N

Typically Offered
Fall

EDCI 814 - Understanding and Teaching Reading

Credits: 3

Foundational issues in K-12 reading instruction. Focus on the reading process, the nature of the learner, the text, and the instructional setting.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDCI 816 - Approaches to Literacy Instruction

Credits: 3

A foundational study of research-based approaches, materials, and methods for effective K-12 literacy instruction.

Repeat for Credit
Y

Typically Offered
Summer-Odd Years

EDCI 818 - Theoretical Models of Literacy

Credits: 3

Advanced study of reading with an emphasis on foundational theories and seminal research studies reflecting the complexity of the literacy process.

Repeat for Credit
Y

Typically Offered
Summer-Odd Years

EDCI 820 - Contemporary Issues in Language Arts

Credits: 3

An analysis of current methods, issues, and trends in teaching, speaking, listening, and writing through the study of significant literature and research findings.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDCI 821 - Advanced Methods in the Teaching of K-12 Mathematics

Credits: 3

Advanced study of selected topics in K-12 mathematics emphasizing new programs, trends, controversial topics, and new recommendations for persistent problems; findings of recent research stressed.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDCI 823 - History of Mathematics Education

Credits: 3

This course will examine the issues and forces behind the evolution of mathematics education reform from 1820-present. Historical readings, mathematics curricula, analysis of political and social change, and research in both psychology and mathematics education will be analyzed to establish a foundation for understanding current reform efforts.

Repeat for Credit
N

Typically Offered
Fall

EDCI 825 - Research in Mathematics Teaching and Learning

Credits: 3

This course will focus on seminal and contemporary research in mathematics teaching and learning. Emphasis will be placed on current trends in K-12 classrooms, the relationship between curriculum and instruction to current mathematics education research, critical analysis of research practices, solving and analyzing problems, and designing goals and outcomes for instructional strategies.

Repeat for Credit
N

Typically Offered
Summer

EDCI 826 - Contemporary Technologies in Mathematics Education

Credits: 3

The purpose of this class is to explore the theoretical implications of using technology as a tool for teaching mathematics in K-12 classrooms. The course content will focus on the continual evolution of technology and how this evolution can assist in the teaching and learning of mathematics.

Repeat for Credit
N

Typically Offered
Fall

EDCI 827 - Theoretical Models of Mathematics Teaching and Learning

Credits: 3

This course will focus on the theories of learning, which provide a foundation for the standards for mathematical practice. The course will specifically address historical and contemporary theories related to mathematics teaching and learning.

Repeat for Credit
N

Typically Offered
Spring-Even Years

EDCI 828 - Assessment in Mathematics Education

Credits: 3

This course will provide participants with assessment tools necessary to enhance learning for diverse student populations. The course will explore ways to document student performance and progress for instructional and accountability purposes. Participants will become familiar with quantitative and qualitative concepts and practices used to evaluate student learning in the classroom.

Repeat for Credit
N

Typically Offered
Summer-Even Years

EDCI 830 - Contemporary Issues in Family and Consumer Sciences Education

Credits: 3

Advanced study of evolving trends and materials for Family and Consumer Sciences programs; application to teaching and curriculum.

Repeat for Credit
Y

Requisites
Recommended Foundation Course: EDSEC 621 and teaching experience.

Typically Offered
Summer

EDCI 831 - Contemporary Issues in Teaching and Learning

Credits: 3

Advanced study of selected topics and contemporary issues in curriculum and instruction emphasizing new programs, trends, instructional strategies, and curricular issues. Findings of recent research are stressed.

Repeat for Credit
Y

Typically Offered
Spring, Summer

EDCI 834 - Improving Science Teaching

Credits: 3

Evaluation and implementation of psychological and philosophical foundations will be stressed in improving K-12 science teaching.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDCI 835 - Supervision of Student Teaching

Credits: 3

Organization and functions of student teaching programs; orienting, supervising, and evaluating student teachers in elementary and secondary schools.

Repeat for Credit
N

Typically Offered
Spring

EDCI 840 - Literacy Assessment

Credits: 3

An overview of the collection, analysis, and interpretation of data from formal and informal assessment methods and instruments to enhance literacy instruction by documenting growth and literacy development.

Repeat for Credit
Y

Typically Offered
Fall

EDCI 841 - Striving Literacy Learners

Credits: 3

Explores the identities of "striving literacy learners" across grade levels to address the importance of interest, motivation, gender, culture, and language on learning to read with an emphasis on differentiated instruction to support literacy development and lifelong reading.

Repeat for Credit
Y

Typically Offered
Spring

EDCI 845 - ELD/Dual Language Methods

Credits: 3

This course is an exploration of contemporary approaches, methods, and strategies for the appropriate instruction of second language learners. The course examines the theories of Second Language Acquisition and the need to consider the biographies of students within the scope of classroom teaching and learning. Also explores foundational perspectives on EFL/dual language approaches, including the communicative, cognitive, and grammatical.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 846 - ELD/Dual Language Culture and Language in Classroom Practice

Credits: 3

This course examines the many ways in which school educators may build the capacities for cultural and linguistic diversity in the classroom. Special emphasis is placed upon readiness for mutually accommodative professional practices with *culturally and linguistically diverse* [CLD] students and families in the following areas: foundations of culture and language; critical reflection on practice; maximizing the assets that CLD students and families bring to learning; school and classroom ecology; curriculum conscientiousness; the differentiation of instruction for cultural and linguistic diversity; and a framework for advocacy in practice.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 847 - ELD/Dual Language Assessment

Credits: 3

This course provides an overview of current issues regarding the assessment of CLD students within classroom practice. Examines pre-instructional student assessment; the acculturation process and asset discovery; issues of language proficiency beyond the measurements; focus on pre-assessment, formative, and summative assessment; using interactive grouping configurations and learning strategies as an integral part of the assessment process; assessments for students in special education settings.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDCI 858 - Online Course Design Project/e-Portfolio

Credits: 2

The portfolio as a professional development tool is developed using Association for Educational Communications and Technology standards. An online instructional design course project with assessment is developed and placed on an e-portfolio website.

Repeat for Credit
Y

Requisites
Prerequisite: Admission to Digital Teaching and Learning Specialty.

Typically Offered
Fall, Spring, Summer

EDCI 862 - Instructional Systems Design

Credits: 3

This course examines ways to design instructional modules based on key principles of instructional systems design.

Note
Graduate Level Course

Repeat for Credit
N

Requisites
Prerequisite: EDCI 718 or equivalent course

Typically Offered
Fall

EDCI 863 - Online Teaching and Learning

Credits: 3

This course examines ways to design and develop online instructional modules based on key principles of instructional systems design.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 718 or equivalent course and EDCI 862 or equivalent course

Typically Offered
Spring

EDCI 864 - Social/Cultural Issues in Educational Technology

Credits: 3

This course addresses social and cultural issues pertaining to the integration of educational and communications technologies (ECT) into teaching and learning; examines concerns relating to equitable access to ECT; explores the impact of ECT adoption and use upon diverse social/cultural groups; and addresses designing and developing culturally cognizant, appropriate, and relevant ECT.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 718 or equivalent course.

Typically Offered
Summer

EDCI 866 - Educational Technology Change Management

Credits: 3

This course introduces participants to the knowledge and skills needed to become agents of positive technological change within their workplaces. Topics covered include diffusion of innovations, needs assessment, change management, systemic change, human performance technology, socio-cultural cognizance, and inclusion/equity.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 718 or admission into the Ed.D. program

Typically Offered
Summer

EDCI 871 - World Language Education Practicum

Credits: 3

Participate in a supervised field experience in a PK-12 world language classroom. Apply the principles of best practice in world language curriculum and instruction planning, instruction, assessment, and reflection.

Repeat for Credit
N

Requisites
Corerequisites: EDCI 770, EDCI 771, EDCI 772, EDCI 773

Typically Offered
Fall, Spring, Summer

EDCI 876 - The Social Studies Curriculum in the Secondary School

Credits: 3

New trends, materials, and ideas in teaching K-12 social sciences, based on recent research and experimental programs.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDCI 878 - The Language Arts Curriculum

Credits: 3

The changing scene in the teaching of English: trends, materials, and ideas in literature, composition, and grammar that have emerged from recent research and discovery.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDCI 882 - Teaching and Learning Models

Credits: 3

Advanced study of ways to organize the curriculum, instructional strategies, and the teaching environment to promote learning. Various models of teaching are analyzed and critiqued.

Repeat for Credit
Y

Typically Offered
Fall

EDCI 886 - Seminar in Curriculum and Instruction

Credits: 1-18

Intensive discussion of research or problems of current professional interest based on study of pertinent original literature.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDCI 887 - Educational Technology Proseminar I

Credits: 3

Examines contemporary issues related to the role of technology in teaching and learning. Topics covered reflect current theory, research and practice within the discipline of educational technology. This is the first of a two-course sequence examining a wide range of issues; the second course is EDCI 888.

Repeat for Credit
Y

Requisites
Prerequisite: EDCI 718 or equivalent course

Typically Offered
Fall

EDCI 888 - Educational Technology Proseminar II

Credits: 3

Examines contemporary issues related to the role of technology in teaching and learning. Topics covered reflect current theory, research and practice within the discipline of educational technology. This is the second of a two-course sequence examining a wide range of issues; the first course is EDCI 887.

Repeat for Credit
Y

Requisites
Prerequisite: EDCI 718 or equivalent course

Typically Offered
Spring

EDCI 890 - Master's Project

Credits: 1-6

Students select and prepare a project designed to improve their professional practice. It may be the construction of a

professional portfolio or project to represent the student's learning throughout the master's degree program.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDCI 898 - Master's Report

Credits: 1-18

A master's report is generally shorter than a thesis and presents the results of a more limited original investigation or a problem or topic within the student's classroom or educational field approved by the candidate's supervisory committee.

Note
Permission by department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDCI 899 - Master's Thesis

Credits: 1-18

A master's thesis presents the results of an original investigation or a problem or topic within the student's classroom or educational field approved by the candidate's supervisory committee.

Note
Permission by department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDCI 900 - Introduction to Ed.D. Doctoral Studies

Credits: 3

This course guides Ed.D. students in becoming acclimated to doctoral studies and research. Students are engaged in discussion and dialogue about the purpose of doctoral studies in education, as well as the responsibilities associated with doctoral studies and research: academic integrity, research ethics, and inclusive learning environment. Specifically, students explore doctoral studies as a way to transform ideas, epistemologies, and theories into praxis for addressing problems of practice and policy in schools.

Repeat for Credit
N

Typically Offered
Summer

EDCI 901 - Literature Reviews for Doctoral Research

Credits: 3

This course explores the purpose and development of literature reviews in educational research. Students learn methods of engaging, organizing, and synthesizing literature. Students examine different theoretical frameworks and think about how certain theories can be used to address their problems of practice and policy in schools. Students will begin reviewing literature for doctoral research.

Repeat for Credit
N

Typically Offered
Summer

EDCI 907 - Curriculum Theory

Credits: 3

Theoretical concepts underlying significant curriculum developments. A systematic critique of current curricular theory. Consideration of model generation.

Repeat for Credit
Y

Typically Offered
Fall

EDCI 910 - Multicultural Curriculum Programming

Credits: 3

Application of multicultural curriculum principles to total school programming with particular emphasis on the cultural pluralism phenomenon. Includes analytic review of instruments on multicultural/multiracial curriculum evaluation as well as planning skills for equitable thrusts. Primarily involves elementary and secondary focus with some attention to postsecondary programming.

Repeat for Credit
Y

Typically Offered
Fall, Summer

EDCI 912 - Historical Research Methods in Education

Credits: 3

Historical research is the contextual link of the past to the present. Offering new perspectives and analyses, this course is an introduction to the methodology of historical research in education and an introduction to historical writing about educational issues. A historical research paper/project is the culminating experience.

Repeat for Credit
N

Typically Offered
Fall-Even Years

EDCI 913 - Inquiry I – Statistical Analysis in Curriculum and Instruction

Credits: 3

Introduction of statistics and statistical analyses in educational research. Covers a wide range of descriptive and inferential statistics. Focuses on understanding concepts and processes of statistics and interpreting the results based on educational research data. First in a two-course sequence.

Repeat for Credit
N

Typically Offered
Fall

EDCI 914 - Inquiry II – Qualitative Research in Curriculum and Instruction

Credits: 3

Focus on acquiring methodological skills used to conduct qualitative research; collecting data using field notes, interviews, observations, and documents; analysis and interpretation of data; and communicating results of qualitative data in writing.

Repeat for Credit
N

Typically Offered
Spring

EDCI 915 - Inquiry III - Program Evaluation for Curriculum and Instruction

Credits: 3

Introduction to basic concepts of program evalution and tools commonly used to evaluate educational programs and activities. Explores different evaluation designs, quantitative and qualitative methodologies commonly used in assessment and evaluation, and skills required to be a critical reader of evaluations.

Repeat for Credit
N

Requisites
Prerequisite: EDCEP 816

Typically Offered
Fall

EDCI 917 - Inquiry IV - Advanced Quantitative Methods in Curriculum & Instruction

Credits: 3

Advanced examination of statistics and statistical analyses in educational research. Focus on transtion from learning statistics to using and presenting statistics.

Repeat for Credit
N

Typically Offered
Spring

EDCI 918 - Inquiry IV - Advanced Qualitative Methods in Curriculum & Instruction

Credits: 3

Critical consideration of recent research in designated fields. Emphasis on case study research methods.

Repeat for Credit
N

Typically Offered
Spring

EDCI 920 - Narrative Inquiry in Education

Credits: 3

This course examines theoretical underpinnings of narrative inquiry, narrative analysis, narrative data collection, narrative writing, and contemporary narrative research issues in education.

Repeat for Credit
N

Requisites
Prerequisite: EDLEA 838.

Typically Offered
Other

EDCI 930 - Leadership in Literacy

Credits: 3

A seminar to prepare reading professionals to work as literacy leaders, advocates, and coaches to support district and school literacy professional development.

Repeat for Credit
Y

Typically Offered
Summer-Even Years

EDCI 943 - Principles of College Teaching

Credits: 3

Principles of learning, learning theory, educational objectives, methods and techniques, college students, and evaluation in the classroom. Emphasis upon preservice and in-service help in improving instruction at the college level.

Repeat for Credit
Y

Typically Offered
Fall, Spring

EDCI 945 - Clinical Practicum in Reading

Credits: 3

Supervised K-12 practicum with candidates working with individuals and small groups of readers using a wide range of evidence-based instructional practices, approaches, and curricular materials.

Repeat for Credit
Y

Requisites
Prerequisite: EDCI 816, EDCI 818, EDCI 840, and EDCI 841. Prior or concurrent enrollment in EDCI 930.

Typically Offered
Summer

EDCI 975 - Internship in Reading

Credits: 1-4

Professional field experience for candidates to demonstrate expertise by supporting reading development, analyzing building and district needs, developing action plans, and conducting related professional development.

Repeat for Credit
Y

Requisites
Prerequisite: EDCI 945.

Typically Offered
Fall, Spring

EDCI 986 - Advanced Seminar in Curriculum and Instruction

Credits: 1-18

These seminars will critically consider recent research in the designated fields. The emphasis will be upon individual

studies and small group interaction. Enrollment is restricted to those students who have been admitted to the doctoral program in education and who have completed substantial amounts of graduate study in the designated fields.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDCI 991 - Internship in Curriculum and Instruction

Credits: 1-18

Studies of and field experiences in the development of programs in cooperating schools and educational or related agencies under the supervision of College of Education graduate faculty members. A maximum of 6 credit hours may be chosen from the areas listed.

Repeat for Credit
Y

Requisites
Prerequisite: Only TELRN non-licensure track students and Ed.D. students may enroll in EDCI 991 and/or list EDCI 991 on their Program of Study. Permission of department head.

Typically Offered
Fall, Spring, Summer

EDCI 999 - Research in Curriculum and Instruction

Credits: 1-18

Doctoral research demonstrates the candidate's ability to conduct significant original research related to curriculum and instruction, to analyze the information obtained from the research, and to present the results in a dissertation format appropriate to the educational field.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDEL 250 - Health and Movement Education in Elementary Classrooms

Credits: 2

Addresses major concepts of health education, human movement, and physical activities to enable elementary teachers to promote healthy lifestyles for all students in their instruction.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDEL 270 - Arts for Elementary Schools

Credits: 3

Methods, materials, and educational philosophy of the fine arts for elementary school teaching. Students will explore art and design media, techniques, and concepts including drama, movement, music, and visual arts. Emphasis will be placed on designing, implementing, and evaluating arts experiences.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

EDEL 410 - Block B Practicum: K-6

Credits: 2

A field experience designed to give students opportunities in applying teaching methods in literacy and science in elementary grades. Includes using technologies to enhance instruction and facilitate professional productivity.

Note
Field experience 30 credit hours; Lecture/Lab 12 credit hours.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320 Corequisite: EDEL 411.

Typically Offered
Fall, Spring

EDEL 411 - Science of Reading I

Credits: 3

Provides an evidence-based approach to teaching the science of reading in the primary grades focusing on five areas: phonemic awareness, phonics, vocabulary, fluency, and comprehension. Topics include how the brain learns to read, essential components of structured literacy, and the research behind practices that support literacy skills and language development. Addresses literacy assessment, instructional strategies, and resources for teaching decoding, language comprehension, and reading comprehension to meet the needs of all students.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDEL 410.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

EDEL 412 - Teaching Science: PK-6

Credits: 3

An introduction to the principles and methods of teaching science in elementary grades, including the nature of science, student learning, curriculum, instructional methods and activities, equity issues, and student assessment. Includes using technologies to enhance instruction and facilitate professional productivity.

Repeat for Credit
N

Requisites
Corequisite: EDCI 320

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences

EDEL 413 - Classroom Assessment: PK-6

Credits: 1

Examines the role of assessment in elementary classrooms in teaching; characteristics of high-quality assessments; diagnostic, formative, and summative assessments; preparation of classroom tests and test items; performance and portfolio assessments; affective traits; assessment of students with special needs and characteristics; grading and reporting; and standardized tests.

Repeat for Credit
N

Requisites
Corequisite: EDCI 200 and Admission to Teacher Ed

Typically Offered
Fall, Spring

EDEL 414 - Teaching Culturally and Linguistically Diverse Learners

Credits: 3

Examines multicultural education and the characteristics of diverse learners in the classroom, including culturally and linguistically diverse learners. Curricular and instructional implications of these differences are examined in an effort to differentiate instruction to meet the needs of all learners.

Repeat for Credit
N

Requisites
Prerequisite: Admission to teacher education. Corequisite: EDCI 320

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

EDEL 415 - Teaching Methods for Mathematics, PK-2

Credits: 3

Focuses on teaching mathematics in the elementary school, grades PK-2. Topics include: reform movements in math

education, effective learning environments, students' and teachers' views and experiences with mathematics, pedagogy of major mathematical concepts, and the nature of mathematical and reasoning processes.

Note
Intended to be required for all undergraduate elementary education majors.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320

Typically Offered
Fall or Spring

EDEL 450 - Art Methods for Elementary Schools

Credits: 3

Principles of teaching applied to art instruction in elementary schools including: motivation, child-development and mark making, organization of subject matter, lesson/unit planning, assessment and reporting, organization and management of the classroom, and methodology and materials of elementary school art.

Repeat for Credit
N

Requisites
Prerequisite: Admission to Teacher Education, EDART Teaching field.

Co-requisite: EDEL 451.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

EDEL 451 - Art Practicum for Elementary Schools

Credits: 1

Field-based experience to help the pre-professional teacher practice the incorporation of art methods, strategies, and techniques in teaching and assessment in the elementary school.

Repeat for Credit
N

Requisites
Prerequisite: Admission to Teacher Education, EDART Teaching Field.

Co-requisite: EDEL 450.

Typically Offered
Spring

EDEL 460 - Block C Practicum: K-6

Credits: 2

A field experience designed to give students opportunities in applying teaching methods in literacy, social studies, and mathematics in elementary grades. Includes using technologies to enhance instruction and facilitate professional productivity.

Repeat for Credit
N

Requisites
Prerequisite: EDEL 410 and EDEL 411.

Typically Offered
Fall, Spring

EDEL 461 - Science of Reading II

Credits: 3

Extends an evidence-based approach to teaching the science of reading in the intermediate grades building on five areas: phonemic awareness, phonics, vocabulary, fluency, and comprehension. Topics include orthography, morphology, essential components of structured literacy, and the research behind practices that support literacy skills. Addresses literacy assessment, instructional strategies, and resources for teaching writing, language comprehension, and reading comprehension to meet the needs of all students.

Repeat for Credit
N

Requisites
Prerequisite: EDEL 410, EDEL 411. Corequisite: EDEL

460.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

EDEL 462 - Teaching Social Studies: K-6

Credits: 3

Methods and resources for teaching social studies in elementary grades with the goal of helping students develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an independent world. Includes using technologies to enhance instruction and facilitate professional productivity.

Repeat for Credit
N

Requisites
Corequisite: EDEL 460

Typically Offered
Fall, Spring

K-State 8
Historical Perspectives
Social Sciences

EDEL 463 - Teaching Mathematics: K-6

Credits: 3

The teaching of mathematics in elementary grades, including the nature of mathematical processes, curriculum, methods of instruction, instructional materials, and the evaluation of outcomes. Includes using technologies to enhance instruction and facilitate professional productivity.

Repeat for Credit
N

Requisites
Corequisite: EDEL 460.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

EDEL 464 - Classroom Management and Discipline: PK-6

Credits: 1

Examines ways to establish and maintain a positive learning environment in elementary classrooms and specific strategies to address misbehavior. Emphasis is placed on creating an effective management system, establishing a positive learning environment, addressing individual and group motivation, and preparing to deal with misbehavior.

Repeat for Credit
N

Requisites
Prerequisite: Admission to Teacher Ed and EDCI 200

Typically Offered
Fall, Spring

EDEL 465 - Teaching Methods for Mathematics, Grades 3-6

Credits: 3

Mathematics pedgogy for the elementary school, grades 3-6. Topics include: effective learning environments, teaching major mathematical concepts, formative and summative assessment, classroom discourse, and connecting mathematics to students' lived experiences.

Note
Intended to be required for all undergraduate elementary education majors.

Repeat for Credit
N

Requisites
Prerequisite: EDEL 415

Typically Offered
Fall or Spring

EDEL 466 - Supporting Elementary Learners in Reading and Math, Grades PK-6

Credits: 3

Designed to equip future elementary educators to support elementary learners in developing strong foundational skills in reading and mathematics, particularly for students who are exceptional, diverse, and at risk. Topics include: Structured Literacy, the Science of Reading, Multi-Tiered Systems of Support (MTSS), and Response to Intervention (RTI) strategies within the context of diverse learners in the regular education classroom.

Note
Intended to be required for all undergraduate elementary education majors.

Repeat for Credit
N

Requisites
Prerequisites: EDEL 415, EDEL 411

Typically Offered
Fall, Spring

EDEL 467 - Teaching Methods for STEAM, PK-6

Credits: 3

Integrating pedagogical and disciplinary knowledge needed to deliver high-quality STEM/STEAM education in the elementary classroom. Real-world experiences related to key concepts in the Next Generation Science Standards (NGSS) and other content-area standards through inquiry-based, problem-based, and/or phenomena-based approaches.

Note
Intended to be required for all undergraduate elementary education majors.

Repeat for Credit
N

Requisites
Prerequisite : EDEL 320, EDEL 412

Typically Offered
Fall or Spring

EDEL 490 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research projects.

Note
Requires consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDEL 502 - Independent Study in Elementary Education

Credits: 1-3

Selected topics in professional education. Maximum of 3 hours applicable toward degree requirements.

Note
Consent of department chair.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDEL 520 - Physical Education/Health Methods for PK-6 Schools

Credits: 3

This class includes both theoretical and practical guidelines for analysis and implementation of children's physical education/health. The course focuses on applications of the Kansas standards for elementary educators PK-6 grades.

Repeat for Credit
N

Requisites
Prerequisite: Admission to Teacher Education and corequisite: EDCI 320, EDEL 521.

Typically Offered
Spring

EDEL 521 - Physical Education/Health Practicum for PK-6 Schools

Credits: 1

This course will provide an opportunity for students to plan, teach, and evaluate Physical Education/Health lessons within a placement at the PK-6 school level.

Repeat for Credit
N

Requisites
Corequisite: EDEL 520.

Typically Offered
Spring

EDEL 585 - Teaching Internship in Elementary School

Credits: 1-15

Observation and teaching participation under the direction of selected elementary teachers.

Note
Admission to Professional Semester.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

EDEL 620 - Foreign Language Elementary School Methods

Credits: 3

Methods of teaching and organization for the foreign language program in the elementary school. A score of "2" or "Advanced" on the Oral Proficiency Interview (OPI) is required.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320 Corequisite: EDEL 621

Typically Offered
Spring

EDEL 621 - Foreign Language Elementary School Practicum

Credits: 1

A teaching experience to apply the methods of teaching and organization for the foreign language program in the elementary school.

Repeat for Credit
N

Requisites
Corequisite: EDEL 620

Typically Offered
Spring

EDLEA 502 - Independent Study in Educational Leadership

Credits: 1-3

Selected topics in professional education.

Note
Consent of department chair.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDLEA 710 - Fundamental Histories and Philosophies in Indigenous Education

Credits: 3

Examines the history of education with Indigenous populations in both Eurocentric and non-Eurocentric contexts. Includes: examining Indigenous knowledges found outside of what is considered mainstream education, critical Indigenous philosophies and frameworks from Indigenous scholars in the academy, the foundations of Native sovereignty in the United States, and pedagogical approaches within Eurocentric and non-Eurocentric spaces.

Repeat for Credit
N

Typically Offered
Summer

EDLEA 720 - Self-Determination, Sovereignty, and Systems of Indigenous Education

Credits: 3

Focuses on the evolution of sovereignty for Native nations as it exists in modern educational systems. Includes exploration of the bureaucratic landscape of Indian education in the United States and leading/advocating for Indigenous students and families across educational systems in ways that allow Native nations to build their sovereign capacities to play a more prominent role in the education of their citizens.

Repeat for Credit
N

Typically Offered
Fall

EDLEA 730 - Leadership, Advocacy, and Action in Indigenous Education

Credits: 3

Prepares educators working in or with Indigenous communities to help create culturally sustaining learning environments. Explores leadership, advocacy and action at the classroom and program management levels with focus on building working technical knowledge.

Repeat for Credit
N

Typically Offered
Spring

EDLEA 740 - Applied Project in Educational Leadership for Indigenous Populations

Credits: 3

Application of theories, principles, and skills learned throughout the Indigenous Education Leadership Certificate program to a professional problem/setting.

Repeat for Credit
N

Requisites
Prerequisite: EDLEA 710, EDLEA 720, and EDLEA 730

Typically Offered
Summer

EDLEA 770 - Educational Change and Technology

Credits: 2

This course deals with educational change, teaming, and information literacy. Three thrusts are considered: the emerging technologies and educational change, shaping change with technology, and the use of technology/information literacy to transform teaching and learning.

Repeat for Credit
N

Typically Offered
Spring

EDLEA 775 - Readings in Educational Leadership

Credits: 1-3

Readings in research and application in specialized areas in education.

Note
Consent of department chair.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDLEA 786 - Topics in Educational Leadership

Credits: 1-18

Examination of current topic in area of specialization of faculty.

Note
Varied topics offered each semester so course may be

repeated.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDLEA 795 - Problems in Educational Leadership

Credits: 1-18

Selected students are permitted to secure specialized training appropriate to the needs of the individual. The student's project may involve intensive library investigation in a special field or the collection and analysis of data pertinent to a given problem. All work is done independently under the direction of a faculty member. As many conferences are held as necessary to assure successful completion of a project.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDLEA 801 - Ethical Dimensions of Educational Leadership

Credits: 3

The course rests on the assumption that leadership is a subset of ethics rather than ethics being a subset of leadership. We will examine the ethics of what leaders are, what they do, and how they do it. Students will assess the public and private ethics of leaders, the ethical obligations of leaders and followers, the ways in which leaders shape the ethical environment of institutions, and the temptations of power. We will examine ethical issues related to leadership through case studies concerning leaders in a variety of contexts and cultures. The course looks at how leaders convey values through actions, language, and as role models. It aims to expand students' ethical point of view by first considering personal ethics, then moving on to look at leadership and the common good, and finishing with an examination of ethics in learning communities.

Repeat for Credit
N

Typically Offered
Fall

EDLEA 810 - Historical and Philosophical Analysis of Leadership in Education

Credits: 3

This course seeks to insure that students understand the historical and philosophical background that forms the foundation for current educational systems, offerings, and practices, with a focus on educational leadership. Students will be expected to gather information and research from both primary and secondary sources, be reflective practitioners, and apply higher level cognitive and affective skills. Abilities in writing and critical analysis will be required as students apply, analyze, synthesize, and evaluate a variety of writings regarding the history and philosophy of education in the United States, as well as international influences.

Repeat for Credit
N

Typically Offered
Summer

EDLEA 811 - Philosophy of Education

Credits: 3

A critical analysis of major educational philosophies with discussion of their impact on the problem of education for democracy.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDLEA 819 - Introduction to Education Finance

Credits: 3

An examination of P-12 public school fiscal policy construction and daily operational issues, including evaluation of local, state, and federal fiscal support, tax structures, distributional formulas, finance reform

strategies, and budget preparation and administration.

Repeat for Credit
Y

Typically Offered
Summer

EDLEA 820 - Data Literacy/Data Informed Decisions in Educational Leadership

Credits: 3

Examines actionable school mission and vision attentive to values and priorities that include data use, technology, values, equity, diversity, digital citizenship, social-emotional well-being, academic needs, and based on school improvement implementation theory and research. Provides overview of the types of research methodologies, their strengths and limitations, and the contexts to which they are most suitable to school improvement.

Repeat for Credit
N

Typically Offered
Fall or Spring

EDLEA 825 - Strategic Leadership in Education

Credits: 3

This course deals with an overview of educators becoming strategic leaders at the program, building, and district levels. Two central thrusts are considered: (1) professional and ethical leadership, and (2) information management and evaluation leadership. Emphasis is placed on knowledge, skills and attributes to identify contexts, developing with others vision and purpose, utilizing information, framing problems exercising leadership processes to achieve common goals, and acting ethically for educational communities.

Repeat for Credit
Y

Typically Offered
Fall, Summer

EDLEA 827 - Political and Community Leadership in Education

Credits: 3

A study of the relationship between the school and the community, with special emphasis on the development of a comprehensive community education program. Organizational patterns, financing, program development, and interaction with other community agencies are analyzed.

Repeat for Credit
N

Typically Offered
Other

EDLEA 828 - Scholarly Orientation to Graduate Studies

Credits: 3

This course offers graduate students opportunities to learn how to write in a scholarly way, manage bibliography, understand formatting and citational guidelines of American Psychological Association, conduct index-driven library searches for scholarly sources, and develop an understanding of academic standards of graduate studies in education.

Repeat for Credit
N

Typically Offered
Fall, Summer

EDLEA 830 - Introduction to Educational Facility Planning

Credits: 3

An introduction to the principles and processes involved in providing an appropriate physical infrastructure for P-12 education. Emphasis is placed on planning, financing, constructing, maintaining, and utilizing physical resources.

Repeat for Credit
Y

Typically Offered
Summer

EDLEA 831 - Educational Law

Credits: 3

An examination of the legal status of educational institutions in the United States; the legal rights and responsibilities of educators including due process, tort liability, and contracts; student rights; landmark court decisions; federal and state legislation impacting on education, and resources available to assist in developing solutions to legal problems.

Repeat for Credit
Y

Typically Offered
Fall, Summer

EDLEA 834 - Strategies for Educational Change

Credits: 3

This course provides educators with conceptual knowledge concerning the problems and processes of educational change. Case studies of change are analyzed in the attempt to develop models of educational change.

Repeat for Credit
Y

Typically Offered
Summer

EDLEA 835 - The Principalship

Credits: 2

Analysis of the principal's role as he or she interacts with various referent groups. Applicable to both elementary and secondary administration.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDLEA 836 - School-Community Relations

Credits: 3

Interrelationships that exist between the school and the community and the role of the teacher and administrator in such relationships.

Repeat for Credit
Y

Typically Offered
Other

EDLEA 838 - Qualitative Research in Education

Credits: 3

An overview of theoretical and philosophical perspectives informing qualitative research is presented. In addition, methods (design, data collection, data analysis, and reporting) used in qualitative research for educational settings are examined and applied.

Repeat for Credit
Y

Typically Offered
Fall, Spring

EDLEA 841 - District, Building, and Program Leadership in Education

Credits: 3

This course deals with an overview of educators becoming leaders of instruction at the district, building, and program level. Four thrusts are being considered (1) instruction, (2) curriculum, (3) staff development, and (4) supervisory leadership. Considerable emphasis is placed on knowledge, skills, and attributes of learning leadership. Themes of planning, conducting, and assessing performance are covered in depth.

Repeat for Credit
Y

Typically Offered
Spring, Summer

EDLEA 845 - Leadership for Diverse Populations

Credits: 3

Designed for educators to increase their knowledge of self and others regarding issues of diversity. An emphasis is placed on understanding the role of educators inpromoting

practices and policies supportive of all stakeholders in the educational organization.

Repeat for Credit
Y

Typically Offered
Summer

EDLEA 848 - Understanding Theoretical Frameworks

Credits: 3

Students will explore a variety of philosophical stances that underpin research methods. Examines the nature of reality (ontology) and knowledge (epistemology). Students are expected to develop a personal philosophy of inquiry that will help inform their theoretical and methodological approaches to research.

Repeat for Credit
N

Requisites
Recommended Prerequisite: EDLEA 838.

Typically Offered
Fall

EDLEA 855 - Administrative Leadership in Curriculum

Credits: 3

This course identifies the major roles and responsibilities of school administrators in curriculum-related activities. Administrative skills necessary for developing and evaluating the curriculum will be examined.

Repeat for Credit
Y

Typically Offered
Other

EDLEA 860 - Inclusive School Culture in Educational Leadership

Credits: 3

Examines the use of data to evaluate, cultivate, and advocate for equitable educational resources, technologies, and opportunities that support the educational success and social emotional well-being of each student. Application of knowledge and skills to promote the current and future success of each student and adult and maintain a supportive, equitable, culturally responsive, and inclusive school culture.

Repeat for Credit
N

Typically Offered
Fall or Spring

EDLEA 865 - Administrative Leadership in Staff Development

Credits: 3

This course focuses on the role of the administrator in developing, implementing, and evaluating staff development programs. Superintendent, building-level administrator, and staff development director leadership skills will be analyzed.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDLEA 870 - Educational Professional Learning and Human Resources in Educational Leadership

Credits: 3

Examines human resource administration practices in school leadership with the capacity to develop and engage staff in a collaborative professional culture designed to promote school improvement, teacher retention, and the success and well-being of each student and adult in the school. Engagement in research-based strategies for personnel supervision and evaluation.

Repeat for Credit
N

Typically Offered
Fall or Spring

EDLEA 875 - Administrative Leadership in Staff Supervision

Credits: 3

This course identifies the major roles and responsibilities of superintendents and building-level administrators as supervisors of staff in a K-12 school district.

Repeat for Credit
Y

Typically Offered
Other

EDLEA 885 - Technology Leadership for Administrators

Credits: 3

A course designed to provide an in-depth analysis of administrator technology leadership skills necessary for integrating technology in education. The roles and technologies of technology leadership will be studied in the context of staff development, supervision, and curriculum articulation. Considerable attention will be given to strategies necessary for creating district and building technology plans.

Repeat for Credit
Y

Typically Offered
Fall, Summer

EDLEA 886 - Seminar in Educational Leadership

Credits: 1-18

Intensive discussion of a problem of current professional interest based on study of pertinent original literature.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDLEA 889 - Practicum in Educational Leadership

Credits: 1-3

Supervised on-the-job experience in school leadership.

Repeat for Credit
Y

Typically Offered
Fall, Spring

EDLEA 898 - Master's Report

Credits: 1-18

Master's Report

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

EDLEA 899 - Master's Research

Credits: 1-18

Master's Research

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

EDLEA 901 - The School District Leader

Credits: 3

An examination of research and practice, looking at the role of the school superintendent through the standards for School Leaders, as developed by the Interstate School Leaders Licensure Consortium (ISLLC) and adapted by the state of Kansas for licensure requirements for the district leadership license. Emphasis is placed on leading school improvement efforts, and forming and sustaining purposeful learning communities.

Repeat for Credit
N

Typically Offered
Fall

EDLEA 902 - District Leader Internship

Credits: 1-3

Satisfies the internship requirement for the district leadership license recommendation. Students are required to document a minimum 150 clock hours guided field experience through a formal internship and other coursework (i.e., additional internship requirements beyond EDLEA 902 are also imbedded in many courses in the licensure sequence to assist in reaching the 150 clock hour requirement).

Repeat for Credit
N

Typically Offered
Fall, Spring

EDLEA 910 - Educational Human Resource Administration

Credits: 3

Human resource administration practices in education are considered along with the implications of collective negotiations and professional accountability for human resource policies.

Repeat for Credit
Y

Typically Offered
Spring, Summer

EDLEA 928 - Organizational Leadership in Education

Credits: 3

This course is an examination of the knowledge, skills, and attributes necessary to understand and improve organizations. It includes leadership theory, implementing plans, managing resources, and applying appropriate processes and procedures in varied educational settings.

Repeat for Credit
Y

Typically Offered
Other

EDLEA 929 - Narrative and Arts-Based Inquiry in Qualitative Research

Credits: 3

Students will be introduced to narrative and arts-based inquiry to inform their qualitative research projects. Students will identify a genre from narrative and arts-based inquiry to prepare representational and methodological reflection pieces to inform their future research. Topics covered include critical autoethnography, creative non-fiction, visual representation, mixed-medium art and more.

Repeat for Credit
N

Requisites
Prerequisite: EDLEA 838.

Typically Offered
Other

EDLEA 938 - Advanced Data Analysis in Qualitative Methods

Credits: 3

An overview and application of data analysis methods in qualitative inquiry. In addition representation of findings, documentation of methods, analytic frameworks, processes of analysis, ethical dilemmas, and human subject approval explored.

Repeat for Credit
N

Requisites
Prerequisite: EDLEA 838

Typically Offered
Spring

EDLEA 948 - Data Representation and Writing in Qualitative Research

Credits: 3

Topics covered in this course would vary each semester based on students' writing projects. Topics may include, but not limited to, building methodological arguments, connecting theoretical and methodological frameworks, navigating issues in various genres of data representation, triangulation, and aligning findings with research purpose and questions.

Note
Course is repeatable.

Repeat for Credit
Y

Requisites
Prerequisite: EDLEA 838.

Typically Offered
Fall

EDLEA 950 - Advanced School Business Management

Credits: 3

An advanced course in school finance policy and budgeting practices, with particular consideration for hands-on application to school district leadership in Kansas.

Repeat for Credit
N

Typically Offered
Fall

EDLEA 958 - Case Study in Qualitative Research

Credits: 3

This is an advanced research course on qualitative case study design and application in social science research. Topics include types of case studies, defining the case, site, and sample selection, data collection methods, within-case and cross-case analysis, and writing case reports. Students will conduct and critique a case study appropriate to their discipline.

Repeat for Credit
N

Requisites
Recommended Foundation Course: EDLEA 838.

Typically Offered
Spring

EDLEA 968 - Discourse Analysis

Credits: 3

Students will be exposed to the broad and complex field of discourse analysis. Students will learn about different theoretical and methodological approaches to analyzing the various forms and conceptualizations of "discourse". The course will weave together theory and method, as it will cover discourse analysis as both method and methodology.

Repeat for Credit
N

Requisites
Prerequisite: EDLEA 838 or equivalent.

Typically Offered
Summer

EDLEA 978 - Qualitative Data Management and Analysis Using Nvivo

Credits: 3

Students will have opportunity to explore the relationships between current technologies and the theory and methods of research. Students will learn to use qualitative analysis software, Nvivo, with specific data sets for preparation of data files, management of text and image, creation of codes, memos, queries models, and formation of reports.

Note
EDLEA 938 is highly recommended prior to taking this course.

Repeat for Credit
N

Requisites
Prerequisite: EDLEA 838 or equivalent.

Typically Offered
Summer

EDLEA 986 - Advanced Seminars in Educational Leadership

Credits: 1-18

These seminars will critically consider recent research in the designated fields. The emphasis will be upon individual studies and small group interaction. Enrollment is restricted to those students who have been admitted to the doctoral program in education and who have completed substantial amounts of graduate study in the designated fields.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDLEA 988 - Differentiated Research

Credits: 3

Students will complete a research project of their choice by breaking the project into smaller components, setting goals, maintaining accountability, and preparing deliverables towards the completion of the project. Projects can include theory, methodological work, book chapters, publishable papers, dissertation proposal or chapter drafts, grant work, and more.

Repeat for Credit
N

Requisites
Recommended Foundation Course: EDLEA 838 or an advanced research course.

Typically Offered
Fall

EDLEA 991 - Doctoral Internship in Educational Leadership

Credits: 1-12

Studies of and field experiences in the development of programs in cooperating schools and educational or related agencies under the supervision of Educational Leadership graduate faculty members.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

EDLEA 999 - Research in Educational Leadership

Credits: 1-18

Individual investigation in the field of a student's specialization.

Repeat for Credit
Y

Typically Offered
Fall, Spring

EDSEC 210 - Careers in Family and Consumer Sciences Education-1

Credits: 1

With a focus on family and consumer sciences (FCS) education foundations, FCS framework, FCCLA, FCS branding, and professional practice, this course explores the principles in planning and organizing family and consumer sciences curriculum and career pathways. The course introduces professional practices that support curriculum design elements and instructional methods unique to programs that emphasize technical skill proficiency and competency-based applied learning.

Repeat for Credit
N

Requisites
Corequisite: EDCI 110

Typically Offered
Fall

EDSEC 211 - Careers in Family and Consumer Sciences Education-2

Credits: 1

EDSEC 211 With a focus on career pathways, work-based learning, internship development, employability skills, and advisory boards, this course explores the principles in planning and organizing family and consumer sciences curriculum and career pathways. The course introduces professional practices that support curriculum design

elements and instructional methods unique to programs that emphasize technical skill proficiency and competency-based applied learning.

Repeat for Credit
N

Requisites
Prerequisites: EDCI 110 Foundations of Education and EDSEC 210.

Typically Offered
Spring

EDSEC 328 - Social Studies Colloquium I

Credits: 1

Application and integration of theories and practices of social studies education. Emphasis on rudimentary knowledge of content disciplines and how they can be incorporated in education.

Repeat for Credit
N

Typically Offered
Fall

EDSEC 360 - Introduction to Physical Education/Health

Credits: 3

This course includes identification of competency-based, goal-oriented activities appropriate to PK-12 physical education/health. Emphasis on foundations of physical education/health including: exercise science, sport, careers, and challenges for the future.

Repeat for Credit
N

Typically Offered
Fall

EDSEC 380 - Adaptive Physical Education

Credits: 2

Emphasizes the principles and practices involved in providing activities for individuals who have disabilities or temporary limitations and cannot participate in or benefit from the regular activity program. This course is designed to prepare physical education teachers to provide safe, appropriate, and individualized accommodations to children with disabilities who are included in general physical education programs.

Repeat for Credit
N

Requisites
Prerequisite: EDSEC 360.

Typically Offered
Spring

EDSEC 428 - Social Studies Colloquium II

Credits: 1

Continuation of application and integration of theories and practices of social studies education. Emphasis on rudimentary pedagogical strategies and how they can be incorporated in social studies education.

Repeat for Credit
N

Requisites
Prerequisite: EDSEC 328.

Typically Offered
Fall, Spring

EDSEC 455 - Teaching in a Multicultural Society

Credits: 1

Application of multicultural understandings to teaching in a multicultural society. Strategies for working effectively with students to achieve educational equity.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 525

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.

EDSEC 477 - Content Area Literacies and Diverse Learners

Credits: 2

Development of content area literacies to include concern for culturally and linguistically diverse learners.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 455

Typically Offered
Fall, Spring

EDSEC 490 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research projects.

Note
Requires consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDSEC 502 - Independent Study in Secondary Education

Credits: 1-3

Selected topics in professional education.

Note
Consent of department chair.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDSEC 525 - Interpersonal Relations in the Schools

Credits: 1

A didactic and experiential course designed to develop an understanding of human relations skills in the schools. Provides knowledge and skills necessary to work effectively with students, parents, and school personnel. Particular emphasis is on the basis for interpersonal relations in education, communication skills, the facilitative relationship, working with students in groups, and conducting meetings with parents and school personnel.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 477

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

EDSEC 528 - Social Studies Colloquium III

Credits: 3

Application and integration of theories and practices of content disciplines into instruction. Emphasis on design and presentation of lessons through lenses of social studies disciplines.

Repeat for Credit
N

Requisites
Corequiste: EDSEC 544

Typically Offered
Fall, Spring

K-State 8
Historical Perspectives
Social Sciences

EDSEC 530 - Art Methods for Secondary and Middle Schools

Credits: 3

Principles of teaching applied to art instruction in the secondary and middle schools including: motivation, organization of subject matter, lesson/unit planning,

assessment and reporting, organization and management of the classroom, and methodology and materials of the secondary and middle schools.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 531

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Ethical Reasoning and Responsibility

EDSEC 531 - Art Methods Practicum

Credits: 2

This field-based experience provides the opportunity for students to plan, teach, and evaluate art education lessons within a placement at the middle or secondary level. This practicum also requires students to incorporate reading methods and apply instructional technology in their instruction.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 525

Typically Offered
Fall

EDSEC 532 - Business Methods for Secondary and Middle Schools

Credits: 3

Principles of teaching applied to business instruction in the secondary and middle schools including: motivation, organization of subject matter, lesson/unit planning, assessment and reporting, organization and management of the classroom, and methodology and materials of the secondary and middle schools.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 533

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

EDSEC 533 - Business Methods Practicum

Credits: 2

This field-based experience provides the opportunity for students to plan, teach, and evaluate business education lessons within a placement at the middle or secondary level. This practicum also requires students to incorporate reading methods and apply instructional technology in their instruction.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 525

Typically Offered
Fall

EDSEC 536 - Language Arts Methods for Secondary and Middle Schools

Credits: 3

Principles of teaching applied to language arts instruction in the secondary and middle schools including: motivation, organization of subject matter, lesson/unit planning, assessment and reporting, organization and management of the classroom, and methodology and materials of the secondary and middle schools.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 537

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Ethical Reasoning and Responsibility

EDSEC 537 - Language Arts Methods Practicum

Credits: 2

This field-based experience provides the opportunity for students to plan, teach, and evaluate language arts education lessons within a placement at the middle or secondary level. This practicum also requires students to incorporate reading methods and apply instructional technology in their instruction.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 525

Typically Offered
Fall, Spring

EDSEC 538 - Mathematics Methods for Secondary and Middle Schools

Credits: 3

Principles of teaching applied to mathematics instruction in the secondary and middle schools including: motivation, organization of subject matter, lesson/unit planning, assessment and reporting, organization and management of the classroom, and methodology and materials of the secondary and middle schools.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 539

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

EDSEC 539 - Mathematics Methods Practicum

Credits: 2

This field-based experience provides the opportunity for students to plan, teach, and evaluate mathematics education lessons within a placement at the middle or secondary level. This practicum also requires students to incorporate reading methods and apply instructional technology in their instruction.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 525

Typically Offered
Fall, Spring

EDSEC 540 - Modern Language Methods for Secondary and Middle Schools

Credits: 3

Principles of teaching applied to modern languages instruction in the secondary and middle schools including: motivation, organization of subject matter, lesson/unit planning, assessment and reporting, organization and management of the classroom, and methodology and materials of the secondary and middle schools.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 541

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Ethical Reasoning and Responsibility

EDSEC 541 - Modern Language Methods Practicum

Credits: 2

This field-based experience provides the opportunity for students to plan, teach, and evaluate modern language education lessons within a placement at the middle or secondary level. This practicum also requires students to incorporate reading methods and apply instructional technology in their instruction.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 525

Typically Offered
Fall

EDSEC 542 - Science Methods for Secondary and Middle Schools

Credits: 3

Principles of teaching applied to science instruction in the secondary and middle schools including: motivation, organization of subject matter, lesson/unit planning, assessment and reporting, organization and management of the classroom, and methodology and materials of the secondary and middle schools.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 543

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Natural and Physical Sciences

EDSEC 543 - Science Methods Practicum

Credits: 2

This field-based experience provides the opportunity for students to plan, teach, and evaluate science education lessons within a placement at the middle or secondary level. This practicum also requires students to incorporate reading methods and apply instructional technology in their instruction.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 525

Typically Offered
Fall, Spring

EDSEC 544 - Social Studies Methods for Secondary and Middle Schools

Credits: 3

Principles of teaching applied to social studies instruction in the secondary and middle schools including: motivation, organization of subject matter, lesson/unit planning, assessment and reporting, organization and management of the classroom, and methodology and materials of the secondary and middle schools.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 545

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

EDSEC 545 - Social Studies Methods Practicum

Credits: 2

This field-based experience provides the opportunity for students to plan, teach, and evaluate social studies education lessons within a placement at the middle or secondary level. This practicum also requires students to incorporate reading methods and apply instructional technology in their instruction.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 525

Typically Offered
Fall, Spring

EDSEC 546 - Physical Education/Health Methods for Secondary and Middle Schools

Credits: 3

This course provides students opportunities to study, discuss, organize, and practice instructional methods

designed specifically for secondary and middle school physical education/health programs. Emphasis will be placed on understanding of the objectives, characteristics, and activities available to satisfy student growth and development. The course addresses movement education, rhythm games of low organization, body manipulative, object manipulative, and specific sport skills.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 547

Typically Offered
Fall

EDSEC 547 - Physical Education/Health Practicum for Secondary and Middle Schools

Credits: 2

This field-based experience provides the opportunity for students to plan, teach, and evaluate physical education/health education lessons within a placement at the middle or secondary level. This practicum also requires students to incorporate reading methods and apply instructional technology in their instruction.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 320, Corequisite: EDSEC 525

Typically Offered
Fall

EDSEC 582 - Teaching Internship in Music

Credits: 6-12

Observation and teaching under the direction of selected music teachers in elementary, middle level, and secondary school music programs.

Note
Admission to Professional Semester.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

EDSEC 586 - Teaching Internship in Secondary Schools

Credits: 1-12

Observation and teaching participation under the direction of selected secondary teachers.

Note
Admission to Professional Semester.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

EDSEC 611 - Coordination Techniques

Credits: 1

Acquaints students with techniques in selecting, implementing, and coordinating occupational programs between the school and the business community.

Repeat for Credit
N

Requisites
Prerequisite: EDSEC 620.

Typically Offered
Spring

EDSEC 614 - Laboratory Techniques in Teaching Science

Credits: 3

Rationale for laboratory in secondary school science. The design and implementation of laboratory activities and demonstrations in a high school science program.

Repeat for Credit

N

Requisites
Corequisite: EDSEC 542 and EDSEC 543.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

EDSEC 620 - Principles and Philosophy of Career and Technical Education

Credits: 2-3

Principles of career and technical education in Kansas and other states and countries; principles and philosophy underlying such education, relation of career and technical education to school objectives and community, state, and national needs.

Repeat for Credit
N

Typically Offered
Fall, Summer

K-State 8
Historical Perspectives

EDSEC 621 - Program Planning in Career and Technical Education

Credits: 2-3

The program development and planning process; development of guides for teaching and evaluating reimbursable secondary programs.

Repeat for Credit
N

Requisites
Prerequisite: EDSEC 620.

Typically Offered
Fall, Spring, Summer

EDSP 224 - Exceptional Child in the Regular Classroom

Credits: 3

Designed for general education teachers in meeting the needs of exceptional children. Support strategies for teachers and exceptional children in the mainstream of education will be explored.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

EDSP 323 - Exceptional Students in the Secondary School

Credits: 2

Designed for regular classroom teachers in meeting the needs of exceptional adolescents. Support strategies for teachers and exceptional students in the mainstream of education.

Repeat for Credit
N

Requisites
Prerequisite: Admission to teacher education.

Typically Offered
Fall, Spring, Summer

K-State 8
Human Diversity within the U.S.

EDSP 415 - American Sign Language - Beginning

Credits: 3

The manual alphabet and numbers in American Sign Language, and approximately 500-700 signs. Other topics will include the use of various sign language systems used in the United States, the history of sign language, deaf culture, and the discussion of education of deaf and hard of hearing students.

Repeat for Credit
N

Typically Offered
Fall, Spring

EDSP 502 - Independent Study in Special Education

Credits: 1-3

Selected topics in professional education. Maximum of three hours applicable toward degree requirements.

Note
Consent of department chair.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Human Diversity within the U.S.

EDSP 509 - Introduction to Autism Spectrum Disorder

Credits: 3

Designed to prepare teacher candidates with the ability to recognize and build upon the strengths and needs of students with autism spectrum disorders (ASD). Employ various instructional strategies and locate appropriate educational materials for students with ASD.

Repeat for Credit
N

Typically Offered
Fall or Spring

EDSP 615 - American Sign Language - Intermediate

Credits: 3

This course is a continuation of the Beginning Sign Language course. Approximately 400 additional signs will be taught. There will be discussion of grammar and syntax of American Sign Language. There will be emphasis on conversational use of sign language. Other topics include the use of assistive technology and the use of sign language with various special populations.

Repeat for Credit
N

Requisites
Pre-Requisite: EDSP 415 or instructor permission

Typically Offered
On sufficient demand

EDSP 709 - Autism Spectrum Disorder

Credits: 3

Designed to prepare teacher candidates with the ability to recognize and build upon the strengths and needs of students with autism spectrum disorders (ASD). Employ various instructional strategies and locate appropriate educational materials for students with ASD.

Repeat for Credit
N

Typically Offered
Fall, Spring

EDSP 711 - Characteristics of Exceptionalities

Credits: 3

Provide an overview of exceptionality as it pertains to students. The processes of IEP development and characteristics of both high and low incidence populations will be examined. Each area of exceptionality will be reviewed in terms of etiology, diagnosis, prevalence, remediation, and educational strategies.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

EDSP 742 - Intensive Interventions for Students with Emotional Disability

Credits: 3

Educational planning assessment, instructional methods, curricular modifications, media and materials, teacher

competencies, and model programs for students with emotional disability.

Repeat for Credit
N

Typically Offered
Spring, Summer

EDSP 743 - Intensive Interventions for Students with Dyscalculia and Other Math Difficulties

Credits: 1-3

This course is designed to prepare educators to improve math achievement of students with or at-risk for significant math difficulties or disabilities such as dyscalculia.

Repeat for Credit
N

Requisites
EDSP 224 or EDSP 323

Typically Offered
Fall, Spring

EDSP 744 - Intensive Interventions for Students with Dyslexia and Other Reading Difficulties

Credits: 1-3

This course is designed to prepare educators to improve the reading achievement of students with or at-risk for significant reading difficulties or disabilities such as dyslexia.

Repeat for Credit
N

Typically Offered
Spring, Summer

EDSP 745 - The Consulting Process in Special Education

Credits: 3

A course to prepare special education teachers with skills for consulting effectively with classroom teachers, related services personnel, administrators, and parents about curriculum and program alternatives for exceptional children. Emphasis is upon developing collaborative consultation processes through communication, cooperation, and coordination techniques.

Repeat for Credit
N

Requisites
Prerequisite: (EDSP 323 or EDSP 224) and (EDSP 742 or EDSP 743)

Typically Offered
Summer

EDSP 775 - Readings in Special Education

Credits: 1-3

Readings in research and application in specialized areas in education.

Repeat for Credit
Y

Requisites
Prerequisite: HDFS 110.

Typically Offered
Fall, Spring, Summer

EDSP 777 - Social Emotional Learning and Behavior Management Strategies

Credits: 3

Theoretical and practical applications of behavior analysis in schools with emphasis on preventing and remediating behavior problems of students with disabilities.

Repeat for Credit
N

Typically Offered
Fall, Spring

EDSP 778 - Technology for Special Education

Credits: 3

Designed to help special educators develop an awareness of assistive technology (AT) and related legislative guidelines, which can assist in the lives and learning of students receiving special education. This course will explore assistive technology devices and services and software appropriate for students with special needs. Internet resource and AT evaluation systems related to special education will also be covered.

Repeat for Credit
N

Typically Offered
Fall

EDSP 785 - Practicum I

Credits: 1-3

Observation and participation in teaching individuals with exceptional educational needs under the supervision of selected teachers in special education.

Repeat for Credit
Y

Requisites
Prerequisite: EDSP 711, EDSP 742, and either EDSP 743 or EDSP 744. Instructor permission required.

Typically Offered
Fall, Spring

EDSP 786 - Topics in Education

Credits: 1-3

Examination of current topic in specialization of faculty. Varied topics offered each semester so course may be repeated.

Repeat for Credit
Y

Requisites
Prerequisite: EDCI 315.

Typically Offered
Fall, Spring, Summer

EDSP 787 - Field Experiences in Special Education

Credits: 1-3

Observation and supervised activities in schools, camps, clinics, or institutions related to student's area of special interest or preparation.

Repeat for Credit
N

Typically Offered
On sufficient demand

EDSP 795 - Problems in Special Education

Credits: 1-18

Selected students are permitted to secure specialized training appropriate to the needs of the individual. The student's project may involve intensive library investigation in a special field or the collection and analysis of data pertinent to a given problem. All work is done independently under the direction of a faculty member. As many conferences are held as necessary to assure successful completion of a project necessary for the problem undertaken and consent of instructor.

Note
Background of courses necessary for the problem undertaken and consent of instructor.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDSP 800 - Practicum II

Credits: 3

Observation and participation in teaching individuals with exceptional educational needs under the supervision of selected teachers in special education.

Repeat for Credit
N

Requisites
Prerequisite: EDSP 785

Typically Offered
Fall, Spring

EDSP 830 - Assessment in Special Education

Credits: 3

A study of assessment procedures used in the pre-referral, identification, and instructional phases of program planning for students with special needs.

Repeat for Credit
Y

Typically Offered
Fall

EDSP 833 - Administration of Special Education Programs

Credits: 2-3

The study of administrative units for special education, placement procedures, federal and state legislation, and program reimbursement and funding.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDSP 835 - The IEP Process in Special Education

Credits: 1-3

EDSP 835 is a comprehensive course that focuses on the development and implementation of Individual Education programs (IEPs) in the context of special education. Throughout the course, students will gain a deep understanding of the legal framework surrounding Free Appropriate Public Education (FAPE) and the significance of creating educationally meaningful and legally sound IEPs. They will learn the fundamental components of an IEP and practice writing each section to meet the individual needs of students. Additionally, students will develop skills in assessing and analyzing IEPs, including the use of screening tools and assistive technology assessment. The course also covers transition programming in IEPs and provides opportunities for students to engage in comprehensive case studies. By the end of the course, students will have the knowledge and skills to create comprehensive and effective IEPs that support students with special needs.

Repeat for Credit
N

Requisites
EDSP 830

Typically Offered
Spring

EDSP 841 - Interventions: Low Incidence Special Education

Credits: 3

Curriculum content, methods, and organization of educational programs for children and youth with low incidence special education needs.

Repeat for Credit
Y

Typically Offered
Fall

EDSP 844 - Special Education in Secondary Schools

Credits: 2

Educational perspectives in service delivery options, educational planning, general instructional approaches, learning strategies, and adaptations and modifications of instructional materials and settings for the secondary student in special education.

Repeat for Credit
Y

Requisites
Prerequisite: EDSP 711, EDCI 315, and EDSP 743

Typically Offered
Summer

EDSP 845 - Special Education Programming: Parental Involvement

Credits: 2

An in-depth consideration of the role of home and parents in the educational programming for exceptional children. Emphasis on practical and positive strategies used in

working with parents.

Repeat for Credit
Y

Requisites
Prerequisite: EDSP 711

Typically Offered
Fall

EDSP 846 - Interventions: Early Childhood Special Education

Credits: 3

Strategies, policies, and procedures for the education of young children (0-5 years of age) with disabilities. Areas of emphasis include Individual Service Plans, interagency collaboration, and specific strategies for parents and young children.

Repeat for Credit
Y

Requisites
Prerequisite: EDSP 710.

Typically Offered
Spring

EDSP 848 - Transitions in Special Education

Credits: 3

A study of transition models, curricula, assessment, career development, community resources and agencies, and materials.

Repeat for Credit
Y

Requisites
Prerequisite: EDSP 711

Typically Offered
Summer

EDSP 849 - Interventions: Autism Spectrum Disorders

Credits: 3

Assessment, curriculum content, educational considerations, interventions, and organization of programs for children and youth with Autism Spectrum Disorders.

Repeat for Credit
Y

Typically Offered
Summer

EDSP 853 - College Students with Disabilities

Credits: 3

This course is designed to familiarize higher education personnel with the increasing number of students with disabilities who now attend our institutions of higher education. The course will examine the legal foundations for students with disabilities in higher education, provide a framework for understanding the unique needs of students with learning disabilities, attention deficit disorders, mental health issues, as well as those on the autism spectrum, and examine the role of higher education personnel in helping these individuals be successful thriving college students.

Repeat for Credit
N

Typically Offered
On sufficient demand

EDSP 860 - Special Education Law

Credits: 3

Analysis of legislation, litigation, and administrative rulings related to special education. The course will emphasize the development of legally sound policies and procedures to ensure that schools provide an educationally meaningful and legally correct education for students with disabilities.

Repeat for Credit
N

Typically Offered
On Sufficient Demand

EDSP 885 - Practicum in Education of Individuals with Low Incidence Special Education Needs

Credits: 1-6

Observation and participation in teaching individuals with low incidence special educational needs under the supervision of selected teachers in Special Education programs.

Repeat for Credit
Y

Requisites
Prerequisite: EDSP 841.

Typically Offered
Spring

EDSP 886 - Seminar in Special Education

Credits: 1-18

Intensive discussion of research or problems of current professional interest based on study of pertinent original literature.

Repeat for Credit
Y

Typically Offered
On sufficient demand

EDSP 888 - Externship in Special Education

Credits: 1

The course provides a forum for self-directed development of competencies in Special Education. Students conduct self-assessment and develop strategies for ongoing professional development.

Repeat for Credit
Y

Requisites
Prerequisite: EDSP 885.

Typically Offered
Fall, Spring, Summer

EDSP 889 - Advanced Practicum: Autism Spectrum Disorders

Credits: 1-6

Observation and participation in teaching individuals with Autism Spectrum Disorders under the supervision of selected teachers in Special Education programs.

Repeat for Credit
Y

Requisites
Prerequisite: EDSP 849 and EDSP 885 (6 hours).

Typically Offered
On sufficient demand

EDSP 898 - Master's Report

Credits: 1-18

Master's Report

Note
Permission by department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDSP 899 - Master's Research

Credits: 1-18

Master's Research

Note
Permission by department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDSP 986 - Advanced Seminar in Special Education

Credits: 0-18

These seminars will critically consider recent research in the designated fields. The emphasis will be upon individual studies and small group interaction. Enrollment is restricted to those students who have been admitted to the doctoral program in education and who have completed substantial

amounts of graduate study in the designated fields.

Note
Consent of instructor.

Repeat for Credit
N

Typically Offered
On sufficient demand

EDSP 991 - Internship in Special Education

Credits: 1-18

Studies of and field experiences in the development of programs in cooperating schools and educational or related agencies under the supervision of College of Education graduate faculty members. A maximum of 6 credit hours may be chosen from the areas listed.

Note
Consent of department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

EDSP 999 - Research in Special Education

Credits: 1-18

Individual investigation in the field of a student's specialization.

Note
Sufficient training to carry on the line of research undertaken.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENGL 080 - Developmental English

Credits: 3

Basics of standard edited (written) English with emphasis on grammar, usage, and sentence structure. This course does not fulfill requirements for the associate degree.

Note
Three hours recitation a week.

Repeat for Credit
N

Typically Offered
Fall, Spring

ENGL 100 - Expository Writing I

Credits: 3

Introduction to expressive and informative writing. Frequent discussions, workshops, and conferences. Offers extensive practice in the process of writing: getting ideas, drafting, analyzing drafts, revising, and editing.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
1 English

ENGL 170 - Writing Studio

Credits: 0-3

Support for students concurrently enrolled in writing-intensive classes, including planning, organization, drafting, revising, and editing/proofreading.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENGL 185 - Race, Film, and American Stories

Credits: 3

Introduces students to how race functions in movies, books, and more. It will further examine how movies and books activate and reflect change. Students will analyze artistic expression from one or more American Ethnic traditions, including film and literature, and possibly also music, comics, TV, and other texts.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

Cross-listed
ENGL 185 and AMETH 185

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

ENGL 187 - Book Club

Credits: 3

Cultivates a reading habit that enhances life skills such as critical reading, thinking, discussion, and writing strategies. Readings will include a range of books selected by the instructor and the students.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

ENGL 200 - Expository Writing II

Credits: 3

Introduction to writing persuasively. As with ENGL 100, uses discussion, workshops, and conferences, and emphasizes the writing process.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 100

Typically Offered
Fall, Spring, Summer

K-State Core
1 English

ENGL 210 - Honors English

Credits: 3

Critical reading and writing for students enrolled in the Honors Program. Each individual section will concentrate on themes determined by the instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State Core
1 English

ENGL 213 - Writing Arguments for Architecture Students

Credits: 3

Introduction to writing persuasively for students in Architecture. As with ENGL 100, uses discussion, workshops, and conferences, and emphasizes the writing process.

Note
Required for majors in Architecture.

Repeat for Credit
N

Requisites
Pre-Req: ENGL 100. Must be enrolled in a degree program in Architecture.

Typically Offered
Fall, Spring, Summer

ENGL 220 - Fiction into Film

Credits: 3

Critical analysis of literary texts and their film adaptations.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 224 - Television as Literature

Credits: 3

Critical analysis of television as a literary form.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

ENGL 227 - Video Games as Literature

Credits: 3

Critical analysis of video games as a literary form.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

ENGL 230 - Classical Cultures

Credits: 3

Courses examine Western culture through literature, philosophy, religion, art, and music. Introduction to Western Humanities courses: ENGL 230, ENGL 231, ENGL 233, ENGL 234 may be taken individually and in any order.

This course examines Ancient Greek and Roman cultures.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 231 - Medieval and Renaissance

Credits: 3

Courses examine Western culture through literature, philosophy, religion, art, and music. Introduction to Western Humanities courses: ENGL 230, ENGL 231, ENGL 233, ENGL 234 may be taken individually and in any order.

This course examines Middle Ages to mid 1600s.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 233 - Reformation to Enlightenment

Credits: 3

Courses examine Western culture through literature, philosophy, religion, art, and music. Introduction to Western Humanities courses: ENGL 230, ENGL 231, ENGL 233, ENGL 234 may be taken individually and in any order.

This course examines the Beginnings of Protestantism through the 18th century.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core

6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 234 - Modern

Credits: 3

Courses examine Western culture through literature, philosophy, religion, art, and music. Introduction to Western Humanities courses: ENGL 230, ENGL 231, ENGL 233, ENGL 234 may be taken individually and in any order.

This course examines the 19th century to the present.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 251 - Introduction to Literature

Credits: 3

Study of fiction, poetry, drama, and nonfiction.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

ENGL 253 - Short Story

Credits: 3

Study of short stories from world literature with emphasis on American, British, and Continental.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

ENGL 260 - British Literature

Credits: 3

Selected writers from various periods of British literary history.

Note
Designed for students not majoring/minoring in English.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 269 - Introduction to Creative Writing

Credits: 3

An introduction to creative writing with practice in short fiction, poetry, and creative nonfiction.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

ENGL 270 - American Literature

Credits: 3

Selected writers from various periods in American literary history.

Note
Designed for students not majoring/minoring in English.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

ENGL 275 - Wild Lit

Credits: 3

An introductory survey of environmental literature.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
Aesthetic Interpretation

ENGL 280 - Studies in World Literature and Culture

Credits: 3

Investigation of a particular theme or genre in World literature or culture.

Note
Taught in English. Topics vary.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

Cross-listed
MLANG 280

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

ENGL 285 - Introduction to American Ethnic Literatures

Credits: 3

Study of ethnic and multicultural literatures of the United States, such as African American, Asian American, Latina/o, Jewish, and Native American. May offer cross-cultural comparisons of different ethnic traditions or may focus on a single ethnic tradition.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

ENGL 287 - Great Books

Credits: 3

Introduction to world classics from past to present.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 295 - Selected Studies in English

Credits: 1-3

Selected studies in literature, language, rhetoric, and cultural studies.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

ENGL 297 - Honors Introduction to the Humanities I

Credits: 3

Study of selected major works of history, literature, and philosophy of central importance in the Western cultural tradition. Emphasis on classroom discussion and writing interpretive essays.

Note
Limited to entering freshmen. Consent of instructor

Repeat for Credit
N

Typically Offered
Fall

Cross-listed
HIST 297, MLANG 297, PHILO 297

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 298 - Honors Introduction to the Humanities II

Credits: 3

Continuation of ENGL 297.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 297 or consent of instructor.

Typically Offered
Spring

Cross-listed
HIST 298, MLANG 298, PHILO 298

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 299 - Honors Topics in English

Credits: 3

Readings and colloquia in selected topics in literature or language.

Repeat for Credit
N

Requisites
Prerequisite: Open only to arts and sciences honors program students and to others completing ENGL 100 or ENGL 200 and ENGL 110 or ENGL 125 with a 3.5 GPA.

Typically Offered
Fall, Spring

ENGL 300 - Expository Writing III

Credits: 3

Advanced practice in writing a variety of expository forms: personal essays and informative and persuasive reports. Additional work on style and the demands of various rhetorical situations.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200 or ENGL 210.

Typically Offered
Fall, Spring

ENGL 302 - Technical Writing

Credits: 3

This writing course will provide students from a number of business, technology and aviation disciplines with intensive practice writing the kinds of documents that are common in their future professional lives.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 100 and sophomore standing.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Empirical and Quantitative Reasoning

ENGL 309 - Introduction to Classical Literature in Translation

Credits: 3

Introduction to canonical works of Greek and Roman Literature in translation. Discussion of classical texts with attention to material culture, visual media, and classical culture.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
CLSCS 309

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 310 - Introduction to Literary Studies

Credits: 3

Elements of literary form and style: an introduction to criticism for English majors. Intended as a first course in the analysis of form and technique, an introduction to literary terms commonly used in later courses, and practice in critical writing. Readings from a broad range: poems, plays, essays, and novels.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 312 - Writing with AI: Fundamentals of Generative AI Literacy

Credits: 1

Introduction to the fundamentals of generative AI literacy, including writing, research, and workflow terminology and applications and the benefits, risks, and responsible use of these tools.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200 or ENGL 210 or department consent.

Typically Offered
Fall, Spring, Summer

ENGL 315 - Introduction to Popular Culture

Credits: 3

Theories and methods for studying popular culture including literature, film, comics, television, social media, games, and other forms of popular culture.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

ENGL 324 - Television

Credits: 3

Study of television as a genre from historical beginnings to contemporary moment. Emphasis on form and critical analysis.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 325 - Literature and Technology

Credits: 3

Students will read in a variety of literary, civic, and professional genres about technology and its effect on society; through writing, understand technology in terms of humanistic themes.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 100.

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 326 - Introduction to Digital Humanities

Credits: 3

Explore digital mediums for humanities scholarship, focusing primarily on literary texts.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 330 - Fiction

Credits: 3

Study of fiction as genre from historical and contemporary contexts and cultures. Emphasis on form and critical analysis.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 335 - Film

Credits: 3

Study of film as genre from historical beginnings through classic Hollywood to contemporary cinema. Emphasis on form and critical analysis.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 340 - Poetry

Credits: 3

Study of poetry as genre from historical and contemporary contexts and cultures. Emphasis on form and critical analysis.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 345 - Drama

Credits: 3

Study of drama as genre from historical and contemporary contexts and cultures. Emphasis on form and critical analysis.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 350 - Introduction to Shakespeare

Credits: 3

Study of representative comedies, histories, and tragedies.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 355 - Literature for Children

Credits: 3

Survey emphasizing the reading and evaluating of books for children. Required for licensure in elementary education.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

ENGL 361 - British Survey I

Credits: 3

British literature from Anglo-Saxon times to 1700.

Note
Will apply to survey requirement for English majors.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 362 - British Survey II

Credits: 3

British literature from 1700 to the present.

Note
Will apply to survey requirement for English majors.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 381 - American Survey I

Credits: 3

American literature from pre-colonial times to the Civil War.

Note
Will apply to survey requirement for English majors.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 382 - American Survey II

Credits: 3

American literature from the Civil War to the present.

Note
Will apply to survey requirement for English majors.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 384 - Multicultural Children's Literature

Credits: 3

Theories of differences and underrepresented experiences as related to, for example, ability, gender, ethnicity, and sexuality, through children's literature.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

ENGL 385 - Selected American Ethnic Literatures

Credits: 3

Comparative study of ethnic and multicultural literatures of the United States, such as African American, Asian American, Latina/o, Jewish, and Native American. May focus on a single ethnic tradition outside of the four federally recognized minority groups.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

ENGL 386 - African American Literatures

Credits: 3

Study of African American literatures.

Note
Will apply to the diversity overlay for English Majors.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

ENGL 387 - American Indian Literatures

Credits: 3

Study of American Indian literatures.

Note
Will apply to the diversity overlay for English majors.

Repeat for Credit
N

Typically Offered

Fall, Spring

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

ENGL 388 - Asian American Literatures

Credits: 3

Study of Asian American literatures.

Note
Will apply to the diversity overlay for English majors.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

ENGL 389 - Latina/o Literatures

Credits: 3

Study of Latina/o literatures.

Note
Will apply to the diversity overlay for English majors.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

ENGL 390 - Fable and Fantasy

Credits: 3

Study of modern works in the fabulous or fantastic modes in relation to the traditions underlying them.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 392 - Literature and the Body

Credits: 3

Study of literature of the body in relation to health, psychology, life cycle, the environment, and cultural patterns and influences.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

ENGL 395 - Topics in English

Credits: 1-3

Selected studies in literature and language.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ENGL 399 - Honors Seminar in English

Credits: 1-3

Readings and colloquia in selected masterpieces.

Repeat for Credit
Y

Requisites
Prerequisite: Honors students only.

Typically Offered

Fall, Spring

K-State 8
Aesthetic Interpretation

ENGL 400 - Advanced Expository Writing for Prospective Teachers

Credits: 3

Expository writing and a brief introduction to the history and theory of teaching writing, primarily for candidates for Secondary licensure in English.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200 or ENGL 210.

Typically Offered
Other

ENGL 412 - Writing with AI: Intermediate Generative AI Skills

Credits: 1

Intermediate-level prompt engineering, informed editing, and writing process skills for using generative AI tools for professional and personal writing tasks, with attention to audience and ethical considerations.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 312 or department consent.

Typically Offered
Fall, Spring, Summer

ENGL 415 - Written Communication for Engineers

Credits: 3

Study and intensive use of writing forms characteristic of professional practice.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in the College of Engineering with junior or senior standing and ENGL 100 or equivalent with A or B credit or ENGL 200.

Typically Offered
Fall, Spring, Summer

ENGL 417 - Written Communication for the Workplace

Credits: 3

Theory and intensive writing practice for students entering the workplace.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing and ENGL 200 or ENGL 210.

Typically Offered
Fall, Spring, Summer

ENGL 420 - Topics in Film

Credits: 3

Selected studies in film analysis.

Repeat for Credit
Y

Requisites
Prerequisite: ENGL 200 or ENGL 210.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 424 - Topics in Television

Credits: 3

Selected studies in television analysis.

Repeat for Credit
Y

Requisites
Prerequisite: ENGL 200 or ENGL 210.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 430 - The Structure of English

Credits: 3

Systematic study of the structure of the English language utilizing linguistic approaches to the analysis of sounds, lexicon, grammatical structure, and social variation.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Social Sciences

ENGL 435 - Linguistics for Teachers of English

Credits: 3

Pedagogical aspects of the structure, history, and use of the English language.

Note
For students seeking secondary licensure in English.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200 or ENGL 210.

Typically Offered
Fall, Spring

K-State 8
Historical Perspectives
Human Diversity within the U.S.

ENGL 440 - Themes in Literature

Credits: 3

Explores the literary treatment of important and recurring themes.

Repeat for Credit
Y

Requisites
Prerequisite: ENGL 200 or ENGL 210.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 445 - Literary Kinds

Credits: 3

Examines the characteristics, the growth and development, or the uses of specified literary genres.

Repeat for Credit
Y

Requisites
Prerequisite: ENGL 200 or ENGL 210.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ENGL 450 - Literature and Society

Credits: 3

Literature in relation to social and cultural patterns and influences.

Repeat for Credit
Y

Requisites
Prerequisite: ENGL 200 or ENGL 210.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 455 - Exploring Creativity

Credits: 3

A study of creative thinking.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200 or ENGL 210 or ENGL 415.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ENGL 461 - Introduction to Fiction Writing

Credits: 3

A practical introduction to short fiction writing.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200 or ENGL 210.

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

ENGL 463 - Introduction to Poetry Writing

Credits: 3

A practical introduction to poetry writing.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200 or ENGL 210.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ENGL 465 - Introduction to Creative Nonfiction

Credits: 3

A practical introduction to creative nonfiction or what can be called "the literature of fact." Writers of creative nonfiction use many of the stylistic and literary tools that fiction writers and poets use, but in the service of rendering factual, literally accurate prose.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200 or ENGL 210.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ENGL 469 - Special Topics in Creative Writing

Credits: 3

Topics vary.

Repeat for Credit
Y

Requisites
Prerequisite: ENGL 200 or ENGL 210.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ENGL 470 - The Bible

Credits: 3

Literature, history, and cultural backgrounds of the Hebrew Bible (Old Testament) and/or the New Testament and early Christianity.

Repeat for Credit
Y

Requisites
Prerequisite: ENGL 200 or ENGL 210.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 476 - American English

Credits: 3

Systematic study of the English language as it has been and is spoken in the continental United States. Topics include regional, social, and ethnic variation, language ideologies, intersections of language and power, and analysis of language variation.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

ENGL 485 - Topics in Rhetoric and Literacy

Credits: 3

Content may emphasize visual rhetoric and literacy, literacy theory, and persuasion, and how such topics are understood in particular contexts and cultures.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200 or ENGL 210.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ENGL 490 - Development of the English Language

Credits: 3

Depicts the English language in its place among other world languages, and introduces students to the major ways in which English has changed through time. Considers both internal and external influences as causes of language change.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200 or ENGL 210.

Typically Offered
Fall, Spring

K-State 8
Historical Perspectives

ENGL 492 - Humanities Seminar

Credits: 3

Study in depth of selected major figures and movements in Western arts, ideas, and literature.

Repeat for Credit
N

Requisites
Prerequisite: Appropriate introductory humanities course (or an equivalent background, such as courses in Western civilization, art, or world literature) with consent of instructor.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ENGL 495 - English Internship

Credits: 1-3

Choice between research and service learning internships. A research internship works with English professor on semester-long research project. A service learning intern works with a community organization or other external office to develop written and other materials on behalf of that entity.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

ENGL 497 - Special Investigations in English

Credits: 1-18

Individual investigation in authors, genres, periods of literature or language.

Repeat for Credit
N

Requisites
Prerequisite: Background of preparation needed for investigation undertaken.

Typically Offered
Fall, Spring

ENGL 498 - Honors Tutorial in English

Credits: 1-3

Individually guided study in which the student will formulate and explore a narrowly defined topic in literature or language.

Note
May be used to initiate research for senior honors thesis. Consent of tutorial instructor

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

ENGL 499 - Honors Project

Credits: 3

Open only to Arts & Sciences students who are active members of the University Honors Program.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

ENGL 500 - Writing Center Theory and Practice

Credits: 3

Readings in the field of writing center studies, with attention to topics such as ESL, literacy, and multiculturalism. Literacy studied as it intersects with race, gender, class, ethnicity, and social and institutional structures. Application of theory through a research project and peer tutoring apprenticeship.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200 or equivalent.

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

ENGL 501 - Topics in Classical Literature in Translation

Credits: 3

A detailed study of Greek and/or Roman literature in translation in a small discussion setting. Either an open survey of classical literature or the consideration of a specific question.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed

CLSCS 501

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 510 - Introduction to Professional Writing

Credits: 3

Intensive practice in applying rhetorical principles to a number of genres common in non-academic professions and workplaces; an introduction to allied topics such as document design and editing.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200 or ENGL 210.

Typically Offered
Fall, Spring, Summer

ENGL 512 - Writing Creatively and Collaboratively with AI

Credits: 1

Advanced practice utilizing generative AI tools to hone writing practice and invention for specific audiences, and the resonsibilities associated with entering into a human/machine collaboration.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 312 or department consent.

Typically Offered
Fall, Spring, Summer

ENGL 516 - Written Communication for the Sciences

Credits: 3

Theory and intensive writing practice for students in the basic and applied sciences.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing and ENGL 200 or ENGL 210. Will not substitute for ENGL 415.

Typically Offered
Fall, Spring

ENGL 525 - Women in Literature

Credits: 3

Study of literary works by or about women. Emphasis on historical and cultural contexts.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 545 - Literature for Adolescents

Credits: 3

Selecting, reading, and evaluating books for adolescents.

Note
Required for those seeking middle school and high school licensure in English.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200 or ENGL 210.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ENGL 570 - Law, Politics, and Literature

Credits: 3

Classic and contemporary works of literature, including

novels, plays, short stories, and poems, are used to explore themes in law and politics.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200 or junior standing or POLSC 155 or junior standing.

Typically Offered
Fall, Spring, Summer

Cross-listed
POLSC 670

K-State 8
Aesthetic Interpretation
Ethical Reasoning and Responsibility

ENGL 575 - Holocaust Literature

Credits: 3

Examines texts that represent and react to the experience of Jews during the Holocaust. Emphasis on historical and cultural contexts.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 580 - Selected World Literature

Credits: 3

Addresses writing by authors whose native origins lie outside Europe or the United States. Content may vary with instructor. May examine literature from several countries or regions, concentrate on literature from one country or region, or focus on a topic which transcends national or regional boundaries. Works are written in or translated into English.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

ENGL 595 - Literary Studies Abroad

Credits: 3

Travel abroad, with selected readings, lectures, and discussions which explore the relationships between literary texts and their physical and cultural environments.

Note
Topic varies with instructor.

Repeat for Credit
N

Typically Offered
On sufficient demand

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

ENGL 597 - Career Paths in English and the Humanities

Credits: 1

Professional skills development alongside guided research on career options and paths to success for students majoring in English and other humanities disciplines.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENGL 599 - Special Research in English

Credits: 1-18

Individual investigation in authors, genres, periods of literature, or language. Background of preparation needed for investigation undertaken.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ENGL 601 - General Phonetics

Credits: 3

Description and classification of speech sounds according to point and manner of articulation. Transcription in the International Phonetic Association Alphabet. Includes sounds of English, French, Spanish, German, and others.

Repeat for Credit
N

Typically Offered
Other

Cross-listed
LING 601 and LG 601

ENGL 602 - Historical Linguistics

Credits: 3

Internal and comparative reconstruction of earlier forms of languages. Genetic relationships in language families, and various typological considerations. Includes French, Spanish, and others.

Repeat for Credit
N

Typically Offered
Other

Cross-listed
LING 602 and LG 602

ENGL 603 - Topics in Linguistics

Credits: 1-3

Seminar on a special-topic in linguistics: decipherment of ancient writing systems, linguistics applied to the teaching of English or other languages, discourse analysis (especially of spoken texts), etc. Topic to be announced for semester in which offered.

Repeat for Credit
Y

Typically Offered
Other

Cross-listed
LING 603 and LG 603

ENGL 604 - Expository Writing Workshop

Credits: 3

Course emphasizes stylistic analysis of modern non-fiction prose in the sciences, social sciences, and humanities. Extensive writing required.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall, Spring, Summer

ENGL 605 - Readings in Medieval Literature

Credits: 3

This course is one within a sequence of period studies covering the chronological range of English and American literature. Within these historical periods, the specific course contents will vary by semester and instructor. They may emphasize literary figures and movements, historical and cultural contexts, or different genres and forms within the periods.

Note
Each semester's offerings will be specifically described before each enrollment period in university and department publications.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 610 - Readings in Renaissance Literature

Credits: 3

This course is one within a sequence of period studies covering the chronological range of English and American literature. Within these historical periods, the specific course contents will vary by semester and instructor. They may emphasize literary figures and movements, historical and cultural contexts, or different genres and forms within the periods.

Note
Each semester's offerings will be specifically described before each enrollment period in university and department publications. The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 620 - Readings in Seventeenth-Century British Literature

Credits: 3

This course is one within a sequence of period studies covering the chronological range of English and American literature. Within these historical periods, the specific course contents will vary by semester and instructor. They may emphasize literary figures and movements, historical and cultural contexts, or different genres and forms within the periods.

Note
Each semester's offerings will be specifically described before each enrollment period in university and department publications.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 625 - Readings in Eighteenth-Century British Literature

Credits: 3

This course is one within a sequence of period studies covering the chronological range of English and American literature. Within these historical periods, the specific course contents will vary by semester and instructor. They may emphasize literary figures and movements, historical and cultural contexts, or different genres and forms within the periods.

Note
Each semester's offerings will be specifically described before each enrollment period in university and department publications.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 630 - Readings in Nineteenth-Century British Literature

Credits: 3

This course is one within a sequence of period studies covering the chronological range of English and American literature. Within these historical periods, the specific course contents will vary by semester and instructor. They may emphasize literary figures and movements, historical and cultural contexts, or different genres and forms within the periods.

Note
Each semester's offerings will be specifically described before each enrollment period in university and department publications.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 635 - Readings in Twentieth- and Twenty-First-Century British Literature

Credits: 3

This course is one within a sequence of period studies covering the chronological range of English and American literature. Within these historical periods, the specific course contents will vary by semester and instructor. They may emphasize literary figures and movements, historical and cultural contexts, or different genres and forms within the periods.

Note
Each semester's offerings will be specifically described before each enrollment period in university and department publications.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 640 - Readings in Early American Literature

Credits: 3

This course is one within a sequence of period studies covering the chronological range of English and American literature. Within these historical periods, the specific course contents will vary by semester and instructor. They may emphasize literary figures and movements, historical and cultural contexts, or different genres and forms within the periods.

Note
Each semester's offerings will be specifically described before each enrollment period in university and department publications.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 645 - Readings in Nineteenth-Century American Literature

Credits: 3

This course is one within a sequence of period studies covering the chronological range of English and American literature. Within these historical periods, the specific course contents will vary by semester and instructor. They may emphasize literary figures and movements, historical and cultural contexts, or different genres and forms within the periods.

Note
Each semester's offerings will be specifically described before each enrollment period in university and department publications.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 650 - Readings in Twentieth- and Twenty-First-Century American Literature

Credits: 3

This course is one within a sequence of period studies covering the chronological range of English and American literature. Within these historical periods, the specific course contents will vary by semester and instructor. They may emphasize literary figures and movements, historical and cultural contexts, or different genres and forms within the periods.

Note
Each semester's offerings will be specifically described before each enrollment period in university and department publications.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENGL 655 - Readings in American Ethnic Literature

Credits: 3

This course is one within a sequence of period studies covering the chronological range of English and American literature. Within these historical periods, the specific course contents will vary by semester and instructor. They may emphasize literary figures and movements, historical and cultural contexts, or different genres and forms within the periods.

Note
Each semester's offerings will be specifically described before each enrollment period in university and department publications.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

ENGL 660 - Readings in Major Authors

Credits: 3

This course is one within a sequence of period studies covering the chronological range of English and American literature. Within these historical periods, the specific course contents will vary by semester and instructor. They may emphasize literary figures and movements, historical and cultural contexts, or different genres and forms within the periods.

Note
Each semester's offerings will be specifically described before each enrollment period in university and department publications.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 661 - Advanced Creative Writing: Prose Fiction

Credits: 3

Advanced writing of prose fiction.

Repeat for Credit
Y

Requisites
Prerequisite: ENGL 461 or instructor permission.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 662 - Playwriting

Credits: 3

Theoretical study and practical application of techniques of playwriting with regard to plot, characters, and production; emphasis on the one-act form.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ENGL 663 - Advanced Creative Writing: Poetry

Credits: 3

Advanced writing of poetry.

Repeat for Credit
Y

Requisites
Prerequisite: ENGL 463 or instructor permission.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 665 - Advanced Creative Writing: Nonfiction

Credits: 3

Advanced writing of prose creative nonfiction.

Repeat for Credit
Y

Requisites
Prerequisite: ENGL 465 or instructor permission.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

ENGL 669 - Advanced Creative Writing: Special Topics

Credits: 3

Advanced topics vary.

Note
Instructor consent

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 670 - Topics in British Literature

Credits: 3

This course addresses topics not confined to a single period in a national literature. Specific course content will vary by semester and instructor. It may emphasize cross-national subjects, literary criticism, the development of a theme or genre over time, new perspectives from social, intellectual, or cultural studies, or non-traditional texts and topics.

Note
Each semester's offerings will be described more specifically in university and department publications before each enrollment period.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 680 - Topics in American Literature

Credits: 3

This course addresses topics not confined to a single period in a national literature. Specific course content will vary by semester and instructor. It may emphasize cross-national

subjects, literary criticism, the development of a theme or genre over time, new perspectives from social, intellectual, or cultural studies, or non-traditional texts and topics.

Note
Each semester's offerings will be described more specifically in university and department publications before each enrollment period.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 685 - Readings in World Literature

Credits: 3

Readings in selected world literary traditions. Readings may focus on individual literary traditions or draw from a variety of world literary traditions

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENGL 690 - Topics in Literature for the Young

Credits: 3

This course addresses topics not confined to a single period in a national literature. Specific course content will vary by semester and instructor. It may emphasize cross-national subjects, literary criticism, the development of a theme or genre over time, new perspectives from social, intellectual, or cultural studies, or non-traditional texts and topics.

Note
Each semester's offerings will be described more specifically in university and department publications before each enrollment period.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 695 - Topics in Literature

Credits: 3

This course addresses topics not confined to a single period in a national literature. Specific course content will vary by semester and instructor. It may emphasize cross-national subjects, literary criticism, the development of a theme or genre over time, new perspectives from social, intellectual, or cultural studies, or non-traditional texts and topics.

Note
Each semester's offerings will be described more specifically in university and department publications before each enrollment period.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 698 - Capstone Seminar

Credits: 3

A writing- and discussion-intensive course that provides a culminating experience to the English major.

Repeat for Credit
Y

Requisites
Prerequisite: Twenty-one (21) credit hours in English beyond ENGL 310.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

ENGL 700 - Old English

Credits: 3

The elements of Old English grammar, with readings in prose and poetry.

Repeat for Credit
N

Requisites
Prerequisite: Instructor permission.

Typically Offered
Fall, Spring, Summer

ENGL 703 - Critical Approaches to Children's Literature

Credits: 3

Introduction to advanced study of children's and young adult literature.

Repeat for Credit
N

Typically Offered
Fall, Spring

ENGL 705 - Theories of Cultural Studies

Credits: 3

An overview of theoretical approaches to the study of culture and their current application in English studies.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall, Spring, Summer

ENGL 710 - Studies in a Literary Genre

Credits: 3

The specific contents will vary by semester and instructor, but the studies courses will reflect concerns with literary and rhetorical forms and genres; with specific authors, periods, or literary movements; with perspectives from social, intellectual, and cultural studies; with literary themes; or with language or linguistics.

Note
Each semester's offerings will be described more specifically in university and department publications before each enrollment period.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENGL 715 - Topics in Film / Screen Studies

Credits: 3

A topic course in film, television, and/or media analysis that applies a theoretical approach or approaches.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing (equal to or greater)

Typically Offered
Fall, Spring, Summer

ENGL 720 - Studies in a Major Author

Credits: 3

The specific contents will vary by semester and instructor, but the studies courses will reflect concerns with literary and rhetorical forms and genres; with specific authors, periods, or literary movements; with perspectives from social, intellectual, and cultural studies; with literary themes; or with language or linguistics.

Note
Each semester's offerings will be described more specifically in university and department publications before each enrollment period.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENGL 725 - Studies in Children's/Young Adult Literature

Credits: 3

Addresses topics not confined to a single period in a national literature. May emphasize cross-national subjects, literary criticism, the development of a theme or genre over time, new perspectives from social, intellectual, or cultural studies, or non-traditional texts and topics.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

ENGL 730 - Studies in a Literary Period

Credits: 3

The specific contents will vary by semester and instructor, but the studies courses will reflect concerns with literary and rhetorical forms and genres; with specific authors, periods, or literary movements; with perspectives from social, intellectual, and cultural studies; with literary themes; or with language or linguistics.

Note
Each semester's offerings will be described more specifically in university and department publications before each enrollment period.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENGL 740 - Studies in Literary Theory

Credits: 3

The specific contents will vary by semester and instructor, but the studies courses will reflect concerns with literary and rhetorical forms and genres; with specific authors, periods, or literary movements; with perspectives from social, intellectual, and cultural studies; with literary themes; or with language or linguistics.

Note
Each semester's offerings will be described more specifically in university and department publications before each enrollment period.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENGL 745 - Cultural Studies

Credits: 3

A topic course in Cultural Studies that applies a theoretical approach or approaches.

Repeat for Credit
Y

Typically Offered
Fall

ENGL 753 - Theories of Composition and Rhetoric

Credits: 3

An introduction to major theories of composition and/or rhetoric.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

ENGL 755 - Studies in Composition and Rhetoric

Credits: 3

The specific contents will vary by semester and instructor, but the studies courses will reflect concerns with literary and rhetorical forms and genres; with specific authors, periods, or literary movements; with perspectives from social, intellectual, and cultural studies; with literary themes; or with language or linguistics.

Note
Each semester's offerings will be described more specifically in university and department publications before each enrollment period.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENGL 756 - Business Communication

Credits: 3

A writing-intensive course intended for advanced undergraduate students, graduate students, and working professionals in business.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200 or ENGL 210 or ENGL 415 or ENGL 417 or ENGL 516 or graduate standing.

Typically Offered
Fall, Spring, Summer

ENGL 757 - Studies in Language and Linguistics

Credits: 3

The specific contents will vary by semester and instructor, but the studies courses will reflect concerns with literary and rhetorical forms and genres; with specific authors, periods, or literary movements; with perspectives from social, intellectual, and cultural studies; with literary themes; or with language or linguistics.

Note
Each semester's offerings will be described more specifically in university and department publications before each enrollment period.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENGL 758 - Scientific Communication

Credits: 3

A writing-intensive course intended for advanced undergraduate students, graduate students, and working professionals in science.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200 or ENGL 210 or ENGL 415 or ENGL 417 or ENGL 516 or graduate standing.

Typically Offered
Fall, Spring, Summer

ENGL 759 - Studies in Technical Communication

Credits: 3

The specific contents will vary by semester and instructor, but the studies courses will reflect concerns with literary and rhetorical forms and genres; with specific authors, periods, or literary movements; with perspectives from social, intellectual, and cultural studies; with literary themes; or with language or linguistics.

Note
Each semester's offerings will be described more specifically in university and department publications before each enrollment period.

The courses require junior standing.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENGL 761 - Creative Writing Workshop: Short Fiction

Credits: 3

Advanced writing of short prose fiction.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 661 or instructor permission.

Typically Offered
Fall, Spring, Summer

ENGL 762 - Advanced Playwriting

Credits: 3

Further study in the writing of drama; emphasis on problems of writing the full-length play.

Repeat for Credit
Y

Requisites
Prerequisite: ENGL 662.

Typically Offered
Fall, Spring, Summer

ENGL 763 - Creative Writing Workshop: Poetry

Credits: 3

Advanced writing of poetry.

Repeat for Credit
Y

Requisites
Prerequisite: ENGL 663 or instructor permission.

Typically Offered
Fall, Spring, Summer

ENGL 765 - Creative Writing Workshop: Creative Nonfiction

Credits: 3

Advanced writing of creative nonfiction.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 665 or instructor permission.

Typically Offered
Fall, Spring, Summer

ENGL 767 - Literary Editing and Publishing

Credits: 3

Practice in editing, producing, and marketing of literary manuscripts, including manuscript selection, developmental editing, copyediting, marketing, and publicity in a real-world setting.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

ENGL 769 - Creative Writing Workshop/Special Topic

Credits: 3

Special topics vary.

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENGL 771 - Creative Writing Workshop: Novel/Novella

Credits: 3

Creative Writing Workshop: Novel/Novella

Repeat for Credit
Y

Requisites
Prerequisite: ENGL 661 or instructor permission.

Typically Offered
Fall, Spring, Summer

ENGL 772 - Creative Writing Workshop: The YA Novel

Credits: 3

Advanced novel writing focused on young adult readers. Students will read young adult (YA) novels and analyze their structure and form. Students will workshop sections of their own young adult novel.

Repeat for Credit
Y

Requisites
Prerequisite: ENGL 661 or instructor permission

Typically Offered
Fall, Spring, Summer

ENGL 790 - History of the English Language

Credits: 3

The development of British and American English from Indo-European origins to the present.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing or instructor permission.

Typically Offered
Fall, Spring, Summer

ENGL 795 - Literary Theory

Credits: 3

A historical survey of literary theory and criticism.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Other

ENGL 797 - Professional Writing Internship

Credits: 0-18

Faculty-supervised professional experience, emphasizing application of writing skills in professional contexts. Student projects must be approved by on-site supervisor and faculty supervisor. Report must be submitted at the end of the semester.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 510 or ENGL 665 or ENGL 759 or ENGL 765.

Typically Offered
Fall, Spring, Summer

ENGL 799 - Problems in English

Credits: 1-18

Independent study in major authors, genres, and periods of English and American literature and language.

Repeat for Credit
Y

Requisites
Prerequisite: Background of courses needed for problem undertaken.

Typically Offered
Fall, Spring, Summer

ENGL 801 - Graduate Studies in English

Credits: 3

A survey of the methods and aims of advanced level research and scholarship in language and literature. Taken

in the first year of study toward the M. A. in English as an orientation to the profession.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENGL 805 - Practicum in Teaching University Expository Writing

Credits: 1

Required of GTAs teaching Expository Writing in the English Department. Instruction in the theory and practice of teaching in a university expository writing program. Cannot count in the student's program of study.

Repeat for Credit
Y

Requisites
Prerequisite: graduate status and a GTAship in the English Department.

Typically Offered
Fall, Spring

ENGL 820 - Seminar in Language

Credits: 3

Intensive research concerned with one or more topics in the structure and history of the English language.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall, Spring, Summer

ENGL 825 - Seminar in Literature

Credits: 3

Intensive research concerned with one or more literary genres, periods, authors, or issues/problems.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall, Spring, Summer

ENGL 830 - Seminar in Cultural Studies

Credits: 3

Intensive research concerned with one or more topics central to the theory and practice of Cultural Studies.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Other

ENGL 840 - Seminar in Composition and Rhetoric

Credits: 3

Intensive research on materials germane to the history, structure, and processes central to the concerns of Composition and Rhetoric.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall, Spring, Summer

ENGL 862 - Workshop in Playwriting

Credits: 3

Advanced writing of drama.

Repeat for Credit
Y

Requisites
Prerequisite: ENGL 762 or THTRE 762 or proof of

equivalency. Proficiency.

Typically Offered
Other

Cross-listed
THTRE 862

ENGL 899 - Research in English

Credits: 1-18

Research in English

Note
Permission, Director of Graduate Studies.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENSCI 101 - Introduction Environmental Sciences

Credits: 1

Explores environmental science and environmental issues at global and local scales, points out the diverse, interdisciplinary backgrounds and skills needed to solve environmental issues, and reinforces key concepts through field visits.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Global Issues and Perspectives

ENSCI 410 - Environmental Sciences Internship

Credits: 3

Students will gain experience in the work force, improve communication and interpersonal relation skills, build professional network, and apply classroom knowledge to solve problems in a professional setting. Students will learn what they may enjoy or dislike about potential careers and employers and share that information with their peers.

Repeat for Credit
N

Typically Offered
Summer

ENTOM 100 - Entomology Foundations

Credits: 1

Introduction to Entomology programs, activities, resources, faculty and career opportunities.

Note
1 hour lecture per week

Repeat for Credit
N

Typically Offered
Fall

ENTOM 101 - Insects and People

Credits: 3

Intended for undergraduate non-majors. The focus will be on the global impact of insects and their relatives on human concerns, from acting as disease vectors, agricultural pests, and pollinators to their roles in art, history, and religion.

Note
Two hours lecture and one one-hour interactive session a week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

ENTOM 110 - Exploring Topics in Entomology

Credits: 1-3

Explore various topics in entomology, as an introduction to

the particular topic.

Note
This may be used with CAT communities or Introductory topics classes.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ENTOM 125 - Introduction to Entomology

Credits: 3

An introduction to the foundational areas of Entomology, including classification, identification, insect biology, and applied Entomology.

Repeat for Credit
N

Typically Offered
On sufficient demand

ENTOM 130 - Insect Collecting Techniques and Collections

Credits: 3

An introduction to the techniques used to collect insects in different habitats and times of day, as well as the preparation of insect specimens and their maintanence in collections.

Repeat for Credit
N

Typically Offered
On sufficient demand

ENTOM 135 - Introduction to Animal Health Entomology

Credits: 3

An introduction to Animal Health Entomology, including the wide range of insects that vector diseases, the types of organisms that are spread by insects, the diseases those organisms cause, and management techniques for the insects.

Repeat for Credit
N

Typically Offered
On sufficient demand

ENTOM 150 - Introduction to Plant Health Entomology

Credits: 3

Introduction to the insects that influence plant health, including their identification, their influence, the mechanisms they use to benefit or harm plants, and their management or management abilities.

Repeat for Credit
N

Typically Offered
On sufficient demand

ENTOM 200 - Insect Sampling and Surveillance

Credits: 2

Introduction and hands-on experience with insect sampling and surveillance techniques.

Note
This will be taught twice a week for 2 hours per lab

Repeat for Credit
N

Typically Offered
Fall

ENTOM 202 - Art and Insects

Credits: 3

Science and art are not different ends of an academic continuum, but rather simultaneously found in all disciplines within academia. The goal of this course is to provide a framework and appreciation that students can utilize to consider all aspects of novel experiences and problems, as global problems require global thinking. The model system for this course will be insects, where students

will learn about evolution, genetics, behavior, and biodiversity, while also learning art history, interpretation, analysis of color and shape, perception, and the role of insect representations in the humanities. While there are specific lectures that cover Insects and Art separately, the majority of lectures combine both science and art.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

Cross-listed
ART 202

K-State Core
6 Arts and Humanities

K-State 8
Natural and Physical Sciences
Aesthetic Interpretation

ENTOM 205 - Introduction to Insect Data Analysis

Credits: 1

Introduction and hands-on experience with basic experimental design and common data analysis techniques used in insect sampling, surveillance, and experiments.

Note
This will be taught once a week for 2 hours per lab

Repeat for Credit
N

Typically Offered
Fall

ENTOM 210 - Introduction to Insecticides

Credits: 1

Introduction to insecticides, including their properties, benefits, environmental impact, and laws that regulate their sale, use, and storage.

Note
This will be one hour of lecture per week

Repeat for Credit
N

Typically Offered
Spring

ENTOM 250 - Economic Entomology

Credits: 3

Classification, biology, ecology, and principles of management of economically important insects.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Natural and Physical Sciences

ENTOM 305 - Animal Health Entomology

Credits: 2

Introduction to biology of arthropods that affect animal health. The main focus is on strategies to manage arthropods that negatively affect the health and productivity of animals, including beef and dairy cattle, swine, poultry, horses, sheep, goats, pets, and urban wildlife. This course is particularly recommended for students interested in animal science, pre-veterinary medicine, and other agricultural curricula.

Note
Two hours lecture/demo a week.

Repeat for Credit
N

Typically Offered
Fall

ENTOM 306 - Animal Health Entomology Laboratory

Credits: 1

This laboratory course complements ENTOM 305 and offers hands-on experience in identification and management of arthropods of veterinary importance. Includes field trips to food animal operations.

Note
One two-hour lab a week.

Repeat for Credit
N

Typically Offered
Fall

ENTOM 312 - General Entomology

Credits: 3

A basic study of insects and related arthropods, their structure, physiology, behavior, and relations to plants and animals, including man.

Note
Two hours lecture and two hours of lab a week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Natural and Physical Sciences

ENTOM 320 - Horticultural Entomology

Credits: 3

Biological principles and management considerations for insects and related arthropods affecting horticulture. Practical application of classification and life history information for accurate recognition, monitoring, and pest management decisions. Control tactics and conservation of beneficial species.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Natural and Physical Sciences

ENTOM 325 - Pollinators

Credits: 3

Examines the diversity of animal pollinators, their ecology, current threats to pollinators, and their conservation.

Repeat for Credit
N

Typically Offered
Spring

ENTOM 330 - Basic Beekeeping

Credits: 3

The basics of Beekeeping, including all components of hive development and maintenance, pre- and post-harvest, and business operations are covered.

Repeat for Credit
N

Typically Offered
Fall or Spring

ENTOM 350 - Crops, Insects, and Agroecosystems

Credits: 3

Insects play an important role in crop production and impact many agroecosystems that produce our food. This course will utilize inquiry-based learning to explore the impact of insects on crops and agroecosystems, focusing model crops such as corn.

Note
This course has 2 hours of lecture per week, plus a 2 hour lab once a week.

Repeat for Credit
N

Typically Offered
Spring

ENTOM 399 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research projects.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENTOM 480 - Seminar in Entomology

Credits: 1

Explore current research, teaching, and extension ideas and projects in Entomology through the Departmental seminar series.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ENTOM 481 - Entomological Problems

Credits: 1-3

Study or work in a specific area of entomology that is specialized around student interests or career goals.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENTOM 482 - Research Experience in Entomology

Credits: 1-3

A research experience associated with Entomology.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENTOM 483 - Teaching Experience in Entomology

Credits: 1-3

Teaching experience in an Entomology classroom or online environment.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENTOM 484 - Extension Experience in Entomology

Credits: 1-3

Extension experience in an area associated with Entomology

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENTOM 485 - Entomological Topics

Credits: 1-3

Study of a select topic within Entomology.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENTOM 486 - Internship in Entomology

Credits: 1-3

An internship experience in an area associated with entomology at an organization outside of the Department of Entomology.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENTOM 595 - Capstone Experience

Credits: 3

A research, extension, teaching, or industry-based experience that builds upon an individual student's academic training in preparation for a successful career. A final report is to be submitted at the end of the semester along with a presentation over the capstone experience.

Note
There will be a symposium at the end of the semester for students to present their experience.

Repeat for Credit
N

Requisites
Junior Standing.

Typically Offered
Fall, Spring, Summer

ENTOM 605 - Introduction to Insects of Stored Products

Credits: 3

Biology, ecology, and behavior of stored-product insects and current practices involved in their control.

Repeat for Credit
N

Requisites
Prerequisite: ENTOM 300, or ENTOM 301, or ENTOM 305, or ENTOM 312.

Typically Offered
Spring-Even Years

ENTOM 612 - Insect Pest Diagnosis

Credits: 2

Diagnosis of plant damage by insects and mites, recognition of harmful insects and mites and beneficial insects. Emphasis on field crop pests but pests of other crops will be considered if there is sufficient interest.

Note
One hour lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: ENTOM 300, ENTOM 312 or ENTOM 710.

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

ENTOM 620 - Pesticides, People, and the Environment

Credits: 2

Introduction to insecticides and related pesticides, including their classification, formulation, properties, mode of action, metabolism, resistance, benefits and environmental impact, and federal and state laws that regulate their development, sale, use and storage.

Note
Two hours of lecture a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: CHM 110.

Typically Offered
Spring-Even Years

ENTOM 621 - Introduction to Biological Control

Credits: 3

The theory and practice of biological control with an emphasis on natural enemies of insect pests. Relationship and importance of insect ecology and integrated pest management to biological control. Experimental approaches, evaluation, recognition and life histories of beneficial species will be covered.

Repeat for Credit
N

Requisites
Prerequisite: ENTOM 300, or ENTOM 301, or ENTOM 305, or ENTOM 312.

Typically Offered
Spring-Odd Years

ENTOM 625 - Integrative Behavioral Ecology

Credits: 3

This course is designed to provide an overview of the genetics, ecology, and evolution of insect behavior, emphasizing research done in insect systems. The topics covered in this course will include: (1) Conceptual and empirical framework for studying behavior, (2) the genetics of behavior, (3) "kinds" of behaviors, and (4) detailed examples of each "kind" of behavior.

Note
Three hours of lecture a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: BIOL 450.

Typically Offered
Spring

K-State 8
Natural and Physical Sciences
Empirical and Quantitative Reasoning

ENTOM 630 - Introduction to Molecular Entomology

Credits: 2

Introduction to use of molecular techniques to address fundamental and applies entomological problems, including systematics, marker-assisted selection of resistant genotypes of plants, mechanisms of insecticide resistance, insect transgenesis, risk assessment of genetically modified organisms, and other topics.

Repeat for Credit
N

Requisites
Prerequisite: CHM 110.

Typically Offered
Fall-Even Years

ENTOM 635 - Insect Evolution

Credits: 3

This course covers the evolution and biodiversity of insects. Topics covered include insects in the fossil record, insect phylogenies, the traits responsible for insect diversity, and the evolution of traits like wings, color, mimicry, learning, behavior, farming, parasitic lifestyles and social living.

Repeat for Credit
N

Typically Offered
Fall-Even Years

K-State 8
Natural and Physical Sciences

ENTOM 645 - Introduction to Insect Chemical Ecology

Credits: 3

The overall objective of this course is to familiarize the student with the interactions among organisms, including insects and other arthropods, which are mediated by naturally produced chemicals.

Repeat for Credit
N

Requisites
Prerequisite: ENTOM 300, or ENTOM 301, Or ENTOM 305, or ENTOM 312.

Typically Offered
Spring-Odd Years

ENTOM 649 - Introduction to Arthropod Vectors of Human Pathogens

Credits: 3

This course focus will be vectors of medical and veterinary importance. Students will learn several underlying aspects involved in pathogen-vector-vertebrate host interactions,

including those associated with cellular, molecular and innate immune response of insects to pathogens they transmit. Students will be introduced to current research programs and topics of interest in the field of medical entomology.

Repeat for Credit
N

Requisites
Prerequisite: ENTOM 300, or ENTOM 301, or ENTOM 305, or ENTOM 312.

Typically Offered
Fall

ENTOM 652 - Introduction to Insect Molecular Techniques

Credits: 2

A hands-on introduction to basic molecular biology techniques used in understanding insect biology and physiology, including nucleic acid isolation, polymerase chain reaction, RNA interference, and analysis of experimental results.

Note
This will be taught twice a week for 2 hours/lab

Repeat for Credit
N

Typically Offered
Fall

ENTOM 657 - Introduction to Toxicology of Insecticides

Credits: 3

Study of synthetic and naturally occurring insecticides with emphasis on distribution and elimination, metabolism, mechanism of action, resistance mechanisms, and current advances in new insecticide discovery and new approaches to insect control. The lab focuses on providing hands-on experience with techniques frequently used by toxicologists.

Repeat for Credit
N

Requisites
Recommended Foundation Course: CHM 350, or BIOCH 521, or ENTOM 620.

Typically Offered
Spring-Odd Years

ENTOM 660 - Introduction to Insect Genetics

Credits: 3

The course will initially describe the variety of genetic systems found in insects. Laboratory and statistical techniques will be discussed for studying genetic variation in insect populations. The final part of the course will focus on means for genetic manipulation of populations. The laboratory session will be used to discuss and/or demonstrate techniques for studying insect genetics.

Repeat for Credit
N

Requisites
Prerequisite: ENTOM 300, or ENTOM 301, or ENTOM 305, or ENTOM 312.

Typically Offered
Spring-Odd Years

ENTOM 675 - Introduction to Insect Physiology

Credits: 3

Functions of insect systems for development, metamorphosis, and reproduction. Physiological and biochemical mechanisms underlying insect activities, behavior, and ecological adaptations.

Repeat for Credit
N

Requisites
Prerequisite: ENTOM 300, ENTOM 305, or ENTOM 312.

Typically Offered
Spring-Even Years

ENTOM 692 - Insect Ecology

Credits: 3

Abiotic and biotic factors underlying the distribution, abundance, and dynamics of insects. How to measure these

factors, how they affect insect population processes, interactions, and community structure, especially in agricultural systems. Emphasis on basic concepts and their application, experimental methods and field techniques.

Repeat for Credit
N

Requisites
Recommended Foundation Course: BIOL 263, BIOL 529, or ENTOM 312.

Typically Offered
Fall-Even Years

ENTOM 695 - Insect Taxonomy

Credits: 3

Laboratory study of insect Order and family-group identification. Proper preparation and maintenance of adult insect collections. Lecture stresses the principles of systematics, legal principles of nomenclature, and the phylogeny of insects and their near relatives. For beginning graduate and advanced undergraduate students.

Note
One hour lecture and four hours lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: ENTOM 250 or ENTOM 312.

Typically Offered
Fall-Odd Years

ENTOM 795 - Entomology Seminar

Credits: 1

Entomology Seminar

Note
Consult seminar committee.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENTOM 799 - Problems in Entomology

Credits: 1-18

For nonthesis or nondissertation studies. Work in various fields of entomology.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENTOM 800 - Professional Development in Entomology and Related Sciences

Credits: 2

This course will teach students to develop and effectively communicate scientific research and results, including skills in: critical reading of primary literature, developing meaningful hypotheses, outlining a thesis/dissertation literature review, constructing and writing a well-designed scientific proposal, presenting data, communicating effectively to professional and lay audiences, acquiring meaningful peer-review experience, and learning the basics for writing publishable journal articles.

Repeat for Credit
N

Typically Offered
Fall

ENTOM 805 - Insects of Stored Products

Credits: 3

Biology, ecology, and behavior of stored-product insects and current practices involved in their control.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ENTOM 250, or ENTOM 312 and ENTOM 313, or consent of instructor.

Typically Offered
Spring-Even Years

ENTOM 810 - Insect Pest Management

Credits: 3

The theory and practice of Integrated Pest Management (IPM) with an emphasis on pests in agricultural systems. Integrated concepts include but are not limited to economic thresholds, sampling plans, plant resistance to insects, biological control, pesticides and resistance management. Case studies from several row-crop systems are used to explore key concepts.

Repeat for Credit
N

Requisites
Prerequisite: ENTOM 250 or ENTOM 312 or consent of the instructor.

Typically Offered
Spring-Even Years

ENTOM 815 - Experience in Extension Entomology

Credits: 1-3

Major emphasis is to give students a realistic view of the history, structure, philosophy, and position responsibilities assumed by entomology state and area specialists within the Cooperative Extension Service through hands-on experience.

Repeat for Credit
Y

Requisites
Recommended Foundation Course: ENTOM 612 or ENTOM 767.

Typically Offered
Spring-Even Years

ENTOM 821 - Biological Control

Credits: 3

The theory and practice of biological control with an emphasis on natural enemies of insect pests. Relationship and importance of insect ecology and integrated pest management to biological control. Experimental approaches, evaluation, recognition and life histories of beneficial species will be covered.

Note
Two hours of lecture and two hours of lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: ENTOM 250 or ENTOM 312 or ENTOM 320 or a college-level ecology course.

Typically Offered
Spring-Odd Years

ENTOM 825 - Advanced Integrative Behavioral Ecology

Credits: 3

This course is designed to provide an advanced overview of the genetics, ecology, and evolution of insect behavior, emphasizing research done in insect systems. The topics covered in this course will include: (1) Conceptual and empirical framework for studying behavior, (2) the genetics of behavior, (3) "kinds" of behaviors, and (4) detailed examples of each "kind" of behavior.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: BIOL 450.

Typically Offered
Spring

ENTOM 830 - Molecular Entomology

Credits: 2

Introduction to use of molecular techniques to address fundamental and applies entomological problems, including systematics, marker-assisted selection of resistant genotypes of plants, mechanisms of insecticide resistance, insect transgenesis, risk assessment of genetically modified

organisms, and other topics.

Note
One 2-hour lecture/discussion per week.

Repeat for Credit
N

Typically Offered
Fall-Even Years

ENTOM 835 - Advanced Insect Evolution

Credits: 3

This course covers the evolution and biodiversity of insects. Topics covered include insects in the fossil record, insect phylogenies, the traits responsible for insect diversity, and the evolution of traits like wings, color, mimicry, learning, behavior, farming, parasitic lifestyles and social living.

Repeat for Credit
N

Typically Offered
Fall-Even Years

ENTOM 840 - Immature Insects

Credits: 2

Identification of immature insects to the family level, with emphasis on terrestrial Holometabola and aquatic insects. Techniques for collecting and preserving immatures, with an emphasis on field collecting and identification in laboratory.

Repeat for Credit
N

Requisites
Prerequisite: ENTOM 695.

Typically Offered
Summer-Odd Years

ENTOM 845 - Insect Chemical Ecology

Credits: 3

The overall objective of this course is to familiarize the student with the interactions among organisms, including insects and other arthropods, which are mediated by naturally produced chemicals.

Repeat for Credit
N

Requisites
Recommended Foundation Course: CHEM 350 General Organic Chemistry or its equivalent, or the consent of the instructor.

Typically Offered
Other

ENTOM 849 - Arthropod Vectors of Human Pathogens

Credits: 3

Focus will be vectors of medical/veterinary importance and pathogen-vector-vertebrate host interactions, including those associated with cellular, molecular and innate immune response of insects to pathogens they transmit. Students will be introduced to current research programs and topics of interest in the field of medical entomology.

Note
Two hours of lecture a week, plus 2 hours of lab.

Repeat for Credit
N

Requisites
Recommended Foundation Course: BIOL 198, ENTOM 312, and BIOL 398.

Typically Offered
Fall

ENTOM 852 - Insect Molecular Techniques

Credits: 2

Hands-on experience with basic molecular biology techniques used in understanding insect biology and physiology, including nucleic acid isolation, polymerase chain reaction, RNA interference, and analysis of experimental results. Students will conduct an individual research project and presentation.

Repeat for Credit
N

Typically Offered
Fall

ENTOM 857 - Toxicology of Insecticides

Credits: 3

Advanced study of synthetic and naturally occurring insecticides with emphasis on distribution and elimination, metabolism, mechanism of action, resistance mechanisms, and current advances in new insecticide discovery and new approaches to insect control. The lab focuses on providing hands-on experience with techniques frequently used by toxicologists.

Note
Two hours of lecture and one 3 hour lab each week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: CHM 350, or BIOCH 521, or ENTOM 620.

Typically Offered
Spring-Odd Years

ENTOM 860 - Insect Genetics

Credits: 3

The course will initially describe the variety of genetic systems found in insects. Laboratory and statistical techniques will be discussed for studying genetic variation in insect populations. The final part of the course will focus on means for genetic manipulation of populations. The laboratory session will be used to discuss and/or demonstrate techniques for studying insect genetics.

Note
2 hours lecture and one 3-hour lab each week.

Repeat for Credit
N

Typically Offered
Spring-Odd Years

ENTOM 875 - Insect Physiology

Credits: 3

Functions of insect systems for development, metamorphosis, and reproduction. Physiological and biochemical mechanisms underlying insect activities, behavior, and ecological adaptations.

Note
Three 50 minute lectures per week.

Repeat for Credit
N

Typically Offered
Spring-Even Years

ENTOM 892 - Advanced Insect Ecology

Credits: 3

This course addresses population and community ecology, plant-insect interactions, insect biodiversity and biogeography, and applied ecology. The course will weave basic ecological theory and principles with their application to entomological problems such as conservation, biological control, agriculture, and insect-vectored diseases of plants and humans.

Note
Three hours lecture/discussion per week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: BIOL 529 or ENTOM 692 or a college-level ecology course.

Typically Offered
Fall-Odd Years

ENTOM 895 - Advanced Insect Taxonomy

Credits: 3

Advanced laboratory study of insect Order and Family-group identification. Proper preparation and maintenance of adult insect collections. Lecture stresses the principles of systematics, legal principles of nomenclature, and the phylogeny of insects and their near relatives.

Repeat for Credit
N

Typically Offered
Fall

ENTOM 898 - Master's Report in Entomology

Credits: 1-18

Work in various fields of entomology.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENTOM 899 - Master's Research in Entomology

Credits: 1-18

For student majoring in entomology.

Note
Knowledge in special area and consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENTOM 930 - Topics in Entomology

Credits: 1-9

Selected topics for advanced study in entomology.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

ENTOM 932 - Teaching Experience in Entomology

Credits: 1-3

Teaching experiences for graduate students, including classroom instruction, development of curriculum materials, and other pedagogical methods.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

ENTOM 995 - Entomology Seminar

Credits: 1

Entomology Seminar

Note
Consult seminar committee. Pass/fail grade only.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ENTOM 999 - Research in Entomology

Credits: 1-18

Dissertation credit for students majoring in entomology.

Note
Knowledge in special area and consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENTRP 340 - Business Innovation and the Entrepreneurial Mindset

Credits: 3

An examination of business innovation and provides students with an understanding of how creativity and the entrepreneurial mindset impact the success of

organizations.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

ENTRP 350 - Technology and Innovation Management

Credits: 3

This course presents the main issues in the management of innovation and an appreciation of the relevant skills needed to manage innovation at both strategic and operational levels. The course focuses on four themes: (1) the source, discovery, and evaluation of innovation and opportunities; (2) the provisions of innovation (products and services) that satisfy the needs of customers; (3) the development of mechanisms to appropriate the returns from the exploitation of the innovation; and (4) the organization of efforts to innovate.

Repeat for Credit
N

Requisites
Prerequisite: ENTRP 340 or junior standing.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

ENTRP 411 - Intrapreneurship

Credits: 3

The role of the organizational member is examined as to how ideas and innovations are created, nurtured, assessed, and implemented within existing organizations. Challenges to be studied include how entrepreneurial insight can be channeled toward product creation, how product championing can lead to legitimization within the organization, and how product and organizational strategies can be implemented, assessed and renewed.

Repeat for Credit
N

Typically Offered
Spring

ENTRP 435 - Entrepreneurial Experience

Credits: 3

Explores the creative and innovative careers of successful entrepreneurs. Students will learn what it takes to be a successful entrepreneur from a multitude of business owners; learning from their extensive professional backgrounds and personal experiences. Will promote a deeper understanding of common entrepreneurial pitfalls and explores the skills and tools necessary to start and grow a successful business.

Repeat for Credit
N

Typically Offered
Fall

ENTRP 440 - Entrepreneurship

Credits: 3

The role of the entrepreneur is examined in the conception, start-up, organization, and development of new independent businesses. New venture problems to be studied include identification of possible new products and services, evaluation of practical commercial potential, and development of a business plan, with attention to financing, operating, and marketing.

Repeat for Credit
N

Requisites
Prerequisite: FINAN 450, MANGT 220, MKTG 250

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

ENTRP 466 - Digital Business

Credits: 3

An in-depth study of how social media, mobile

technologies and digital business tools have enabled new businesses development and existing business transformation. Five major, interrelated components: social computing, social media, content sharing, filtering, and Web applications will be explored within the context of business application and development.

Repeat for Credit
N

Typically Offered
Spring

ENTRP 497 - Topics in Entrepreneurship

Credits: 1-3

Discussion and analysis of current issues in entrepreneurship, including topics related to new theory and the practice of entrepreneurship.

Repeat for Credit
Y

Typically Offered
On sufficient demand

ENTRP 520 - Social Entrepreneurship

Credits: 3

Social entrepreneurship is one of the fastest growing disciplines to emerge in management and is increasingly getting recognition as an important policy strategy at the national level. It is concerned with how to engage the talents and tools of professional entrepreneurship to address critical social needs both within and beyond the market. Social entrepreneurship is situated within a framework of social institutions, organizations, and entrepreneurial change in response to human and citizen rights and needs. The relevant social institutions include government, the market, education, philanthropy, and the family. Organizations may be for profit or non-profit, but all organizations, regardless of their legal structure, are seen to have a social purpose. Several non-market venues for sustainable social change will be examined in addition to the traditional delivery of goods and services through the market. The course provides a number of crucial tools and resources that may better orient and equip the prospective social entrepreneur to identify and act on opportunities.

Repeat for Credit
N

Requisites
Prerequisite: ENTRP 340 or Junior standing.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility

ENTRP 540 - Entrepreneurial Consulting

Credits: 3

This course is designed to provide students and faculty in the Entrepreneurship program the opportunity to give business assistance to small firms in the University community.

Repeat for Credit
N

Requisites
Prerequisite: ENTRP 340 or Junior standing.

Typically Offered
Fall

ENTRP 575 - Entrepreneurship and Innovation Capstone

Credits: 3

Builds on previous coursework and other learning experiences to culminate in a final project that adds value to the learning experience.

Repeat for Credit
N

Requisites
Prerequisite: Junior Standing, Admitted to Entrepreneurship Major or Entrepreneurship Minor, Permission from the Entrepreneurship Center Director required.

Typically Offered
Fall, Spring, Summer

ENTRP 825 - Strategic Innovation

Credits: 3

Today's top companies succeed by making innovation a fundamental part of their strategy. As the pace of change continues to increase and the threat of disruption becomes the new normal, company leaders need to have a focused and effective approach to innovation. Students will be introduced to some of the core tools and strategies companies use to harness the innovative abilities, talents, and passion of their employees.

Repeat for Credit
N

Typically Offered
Fall

ENVD 189 - Introduction to University Honors Program

Credits: 1

Directions and goals for the honors program.

Repeat for Credit
N

Typically Offered
Fall, Spring

ENVD 195 - CAT Community Connections

Credits: 0

Interdisciplinary course that explores the connections among two different fields, courses, or disciplines.

Repeat for Credit
N

Typically Offered
Fall

ENVD 200 - Student Success Seminar

Credits: 1

Provides students with strategies for creating success in college and life. Topics to be covered include accepting personal responsibility, motivation, academic self-management, self-awareness, and life balance.

Repeat for Credit
N

Typically Offered
Fall, Spring

ENVD 201 - Environmental Design Studio I

Credits: 4

Foundation studies introducing principles, processes, and vocabularies of environmental design. Instruction in two and three dimensional visualization of objects and spaces. Instruction in the use of instrument-aided drawing, freehand drawing, and model building to represent and communicate design ideas at different scales of observation.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the College of Architecture and Design or permission of the dean.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Empirical and Quantitative Reasoning

ENVD 202 - Environmental Design Studio II

Credits: 4

Foundation studies introducing principles, processes, and vocabularies of environmental design. Instruction in two and three dimensional visualization of objects and spaces. Instruction in the use of instrument-aided drawing, freehand drawing, and model building to represent and communicate design ideas at different scales of observation.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the College of Architecture and Design or permission of the dean.

Typically Offered
Spring

K-State 8

Aesthetic Interpretation
Empirical and Quantitative Reasoning

ENVD 203 - Survey of the Design, Planning and Community Development Professions

Credits: 1

Overview of the environmental design professions. Comparative study of the working methods, and societal and occupational roles of the architect, interior architect, industrial designer, landscape architect, planner, and community developer.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

ENVD 204 - Studio Seminar

Credits: 1

Seminar for students enrolled in ENVD 201. Topics related to studio and student success will be covered.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment in ENVD 201.

Typically Offered
Fall

ENVD 210 - Indian Art, Architecture and Culture

Credits: 3

This course is designed to assist students in understanding India and its cultural, artistic, and architectural heritage so that students can develop a deeper understanding and appreciation for Indian culture, people and their way of life.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

ENVD 240 - Design Drawing

Credits: 2

This course offers an introduction to and sustained freehand drawing practice in fundamental drawing systems, methods and media for the environmental design professions.

Repeat for Credit
N

Typically Offered
Fall, Spring

ENVD 250 - History of the Designed Environment I

Credits: 3

An introduction to key ideas, practices, and works that have shaped global histories of the built environment through the mid-18th century.

Note
Three hours lecture per week.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENVD 251 - History of the Designed Environment II

Credits: 3

An introduction to key ideas, practices, and works that have

shaped global histories of the built environment from the mid-18th century to the present.

Repeat for Credit
N

Requisites
Prerequisite: ENVD 250 or permission of instructor.

Typically Offered
Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENVD 299 - Problems in Basic Design

Credits: 1-18

A study of specified problems in elementary environmental design under the guidance of a member of the staff.

Note
Approval of associate dean.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENVD 400 - Undergraduate Research

Credits: 0-3

Mentored undergraduate research in architecture, interior architecture and product design, landscape architecture or planning.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENVD 430 - K-State APDesign: APDPro

Credits: 0

This course indicates and tracks which College of Architecture, Planning & Design students complete the APD*Pro* requirements for each year.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENVD 650 - Italian Art, History and Culture

Credits: 3

The course provides a synthesis of art, history, design and culture in the context of the Italian Peninsula and the Mediterranean region over time. Integration of material covered in lectures with field trips in Italy is expected.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

ENVD 654 - Education Abroad Orientation

Credits: .5-1

Preparation for participation in study abroad with a focus on specific information pertaining to the design professions and the analysis of the built and natural environment.

Repeat for Credit
N

Typically Offered
Fall

ENVD 655 - International Field Study

Credits: 3

Group observation of design precedents (ancient to present day) of a selected region, conducted *in situ*, to study significant aspects of environment, culture, and technology as expressed in vernacular and designed environments.

Repeat for Credit

N

Typically Offered
Fall, Spring, Summer

ENVD 699 - Problems in Environmental Design

Credits: 0-18

A study of specific environmental design problems under the direction of a member(s) of the departmental staff.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing; approval of Associate Dean.

Typically Offered
Fall, Spring, Summer

ENVD 899 - Problems in Environmental Design & Planning

Credits: 1-4

This course is intended to provide students an opportunity to focus on specific problems in environmental design and planning under the guidance of a member of the college's graduate faculty.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ENVD 900 - Conceptual Approaches to Design and Planning

Credits: 3

Overview of contributions and limitations of various theoretical perspectives that inform the field of design and planning inquiry. Knowledge and theory construction. Nature, scope, and merits of scientific approach. Criticism of the scientific approach and examination of alternative approaches utilized in design and planning research and practice. Linking philosophy, research, and action/practice/application.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ENVD 901 - Research Methods in Design and Planning

Credits: 3

Survey of research methods in the fields of design and planning, including overall systems of inquiry, criteria for assessing quality, strategies and tactics. Strengths and weaknesses of various research designs. Methods covered include experimental and quasi-experimental research, correlational research, qualitative research strategies, simulation and modeling research, action research and design intervention, case study, and combined strategies.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ENVD 999 - Dissertation Research

Credits: 0-18

For students who have completed all credit hour, full-time enrollment, preliminary examination, and residency requirements for the doctoral degree, and are writing and defending their dissertations.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ENVE 101 - Introduction to Environmental Engineering

Credits: 1

Introduction to discipline, department, university, and profession. Exploration of career options. Gain skills through application-oriented problem solving.

Repeat for Credit
N

Typically Offered
Fall

Cross-listed
BAE 101

ENVE 331 - Professional Practice for Environmental Engineering Design

Credits: 1

A preparatory course for ENVE Senior Design class. Topics will include professionalism, project management, intellectual property, organizational behavior and ethics. Students will explore potential design project ideas, build design teams, and chose a project to complete for senior design in the following semester.

Repeat for Credit
N

Typically Offered
Spring

Cross-listed
BAE 331

ENVE 363 - Environmental Engineering Fundamentals

Credits: 3

Basic physical, chemical, and biological concepts and the applications to the protection of the environment with emphasis on techniques used in water and wastewater treatment.

Note
Two hours rec. and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 230 and MATH 222.

Typically Offered
Fall, Spring

Cross-listed
CE 563

ENVE 536 - Environmental Engineering Senior Design

Credits: 3

Team-oriented capstone design laboratory with projects selected to address the design of equipment or systems to solve environmental engineering problems.

Repeat for Credit
N

Requisites
Prerequisite: ENVE 331

Typically Offered
Fall

ETA 020 - Engineering Technology Seminar

Credits: 0

An introduction to university life and the skills necesary for personal and professional success after college. Activities include discussions, hands-on projects and opportunities to meet and learn from professionals. Topics explore the responsibilities of a college student and the benefits of a university education.

Note
Approximately 16 contact hours during the semester.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ETA 292 - Problems in Engineering Technology

Credits: 1-18

Independent study in specific topics in engineering technology.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

ETB 102 - Electronics Seminar

Credits: 3

An introductory seminar for students needing to further their education in the electronics area designed to provide basic hardware, software, and analytical skills necessary to be successful in their future course work related to electronics. Students will also be exposed to technology trends and standards of the electronic industry.

Note
2 hours lecture and 2 hours lab per week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

ETB 292 - Advanced Problems in Engineering Technology

Credits: 0-18

Advanced Problems in Engineering Technology

Repeat for Credit
N

Typically Offered
Other

ETB 310 - Applied Data Analysis and Tools

Credits: 3

An introduction to numerical computing, data analysis, and visualization with emphasis on the use of software tools and programming to model, analyze, and solve a variety of science and engineering problems.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 205 or MATH 220

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

ETB 352 - Microcontroller applications in Unmanned Systems

Credits: 3

This course examines the hardware and software necessary to control Unmanned Systems. The students will learn how to interface microcontrollers to various sensors, actuators and communication devices. They will also learn the programming associated with these devices.

Repeat for Credit
N

Requisites
Prerequisite: ECET 101 and ECET 250

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

ETB 420 - Unmanned Communication Circuits

Credits: 3

Communication electronics with applications in unmanned systems. Students will be exposed to mixed signal design circuits; RF circuits; and software defined radio (SDR) concepts that are key to the design modern radio systems.

Note
Two hours lecture and two lab hours.

Repeat for Credit
N

Requisites
Prerequisite: ECET 201 and ECET 250.

Typically Offered

Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

ETB 480 - UAS Senior Design I

Credits: 1

Application of UAS principles and design methodology to solving a significant design problem in a team context. Includes determining customer requirements, exploring and choosing design alternatives, scheduling, and project management. Significant milestones are the project's conceptual, preliminary, and critical design reviews, which require written and oral presentations.

Note
Two hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: Instructor consent.

Typically Offered
Fall

ETB 481 - UAS Senior Design II

Credits: 2

A continuation of ETB 480. Includes the implementation, testing, and delivery of the project initiated in ETB 480 UAS Senior Design I. Significant milestones are the project prototype, design report, and final presentation.

Note
Four hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ETB 480.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility

ETB 482 - Senior Design Project I

Credits: 1

Application of engineering principles and design methodology to solve a significant design problem in a team context. Includes determining customer requirements, exploring and choosing design alternatives, scheduling, and project management. Significant milestones are the project's conceptual, preliminary, and critical design reviews, which require written and oral presentations.

Repeat for Credit
N

Requisites
Prerequisite: ECET 350, MET 382, and senior standing.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

ETB 483 - Senior Design Project II

Credits: 1-3

A continuation of ETB 482. Includes the implementation, testing, and delivery of the project initiated in ETB 482 Senior Design I. Significant milestones are the project prototype, design report, and final presentation.

Note
Typically four hours lab a week when taken as 2 credit hours.

Repeat for Credit
N

Requisites
Prerequisite: ETB 482.

Typically Offered
Spring

ETB 492 - Advanced Problems in Engineering Technology

Credits: 1-18

Advanced independent study in specific topics in engineering technology.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

FASH 200 - Introduction to Product Development

Credits: 3

Fundamental knowledge and skills in fashion product development and garment construction. Focus on foundational techniques, terminology, methods and fashion industry standards.

Repeat for Credit
N

Typically Offered
Fall, Spring

FASH 245 - Fashion Industry

Credits: 3

Survey of the organization and operation of the global fashion industry; examination of the principles and processes required to meet the needs of the apparel/textile consumer; particular emphasis on sustainability challenges and opportunities pertaining to the industry.

Repeat for Credit
N

Typically Offered
Fall

FASH 265 - Textiles

Credits: 3

Fundamentals of textiles as related to the production, sale, and use of soft goods. Understanding of the environmental impacts of fiber, yarn, and fabric production. Identification of fibers, yarns, and fabrics. Care and performance of textile products.

Repeat for Credit
N

Typically Offered
Fall

FASH 300 - Fashion Production I

Credits: 3

Fundamentals of fashion production using industrial equipment; fit and tech packs.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: FASH 200

Typically Offered
Fall

FASH 325 - Fashion Retailing

Credits: 3

Introduction to the strategic role of retailing in the value chain; analyzing components, processes, and controls involved in managing a soft goods retailing organization while exploring the impetus for triple bottom line thinking in an industry transitioning toward sustainability.

Repeat for Credit
N

Requisites
Prerequisite: FASH 245 with a C or better.

Typically Offered
Spring

FASH 330 - Dress and Human Behavior

Credits: 3

Cultural, social, psychological, and economic aspects related to dress and human behavior of individuals and groups; focus on market segmentation.

Recommended prerequisite: SOCIO 211 or PSYCH 110.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing; Recommended Prerequisite: SOCIO 211 or PSYCH 110

Typically Offered
Fall

K-State 8
Social Sciences

FASH 340 - Fashion Aesthetics

Credits: 3

Understanding and application of aesthetics as it relates to the roles of the fashion industry professional and the development, selection, and promotion of fashion products.

Note
Lecture only.

Repeat for Credit
N

Requisites
Recommended co-requisite: FASH 245.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

FASH 375 - Digital Fashion Communications

Credits: 3

Studies in computer-based advertising and promotional strategies for the fashion industry. Students will apply skills to graphic presentation and current industry technologies.

Repeat for Credit
N

Requisites
Prerequisite: FASH 340 with a C or better.

Typically Offered
Spring

FASH 400 - Fashion Illustration and Flats

Credits: 3

Fashion rendering by hand; technical flats and digital presentation using Adobe Illustrator.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Instructor permission. Recommended prerequisite: ART 180.

Typically Offered
Spring

FASH 410 - Fashion Production II

Credits: 3

Intermediate level fashion production using industrial equipment; fit and use of challenging fabrics.

Repeat for Credit
N

Requisites
Prerequisite: FASH 300 with a C or better.

Typically Offered
Spring

FASH 430 - History of Fashion

Credits: 3

Interrelationship of fashion and social, cultural, political, and economic environments from the 1800s to present day.

Repeat for Credit
N

Requisites
Recommended Foundation Course: ART 196

Typically Offered
Fall

K-State 8
Historical Perspectives

FASH 445 - Professional Development

Credits: 3

Preparation for internship and professional development in the fashion industry.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing and FASH 375 with a C or better or FASH 400 with a C or better.

Typically Offered
Fall

FASH 450 - Showcase of Excellence Event Planning

Credits: 3

Planning, promotion, and production of a fashion runway event and static exhibit.

Repeat for Credit
Y

Requisites
Prerequisite: Instructor permission required.

Typically Offered
Spring

FASH 460 - Soft Goods Evaluation

Credits: 3

Identification and evaluation of soft goods product quality and serviceability from the standpoint of fiber, fabric, and construction performance, material and product standards and specifications, and cost.

Note
Two hours lecture and 2 hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: FASH 265 with a C or better and IDFS 350 with a C or better.

Typically Offered
Spring

FASH 465 - Product Development for Circular Fashion

Credits: 3

Sustainable soft goods product development. Focus on development of textile related products and services (clothing, footwear, accessories, home goods, etc.) for the circular economy, from concept to consumer.

Repeat for Credit
N

Requisites
Prerequisite: FASH 265 with a C or better; IDFS 350 with a C or better

Typically Offered
Spring

FASH 476 - Merchandise Math and Buying Concepts

Credits: 3

Introduction to the processes and methods used by fashion and retail buyers to plan and purchase merchandise. Application of fashion theory, principles, and sources of information in conducting market and consumer research. Forecasting economic trends in retailing
and consumer buying behavior. Emphasis placed on merchandising mathematics, creating spreadsheets in Excel, and key industry terminology used by retail buyers.

Repeat for Credit
N

Requisites
Prerequisite: FASH 325 with a C or better; Corequisite: ACCTG 231

Typically Offered
Spring

FASH 498 - Topics in Fashion Studies

Credits: 1-6

New content, technology or theory related to fashion studies.

Note
Consent of School

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

FASH 499 - Problems in Fashion Studies

Credits: 1-8

Independent study.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FASH 550 - Fashion Internship

Credits: 4

Pre-planned and supervised off-campus work experience in the fashion industry.

Repeat for Credit
N

Requisites
Prerequisite: FASH 445 with a C or better; FASH 655 with a C or better or FASH 575 with a C or better; junior standing; and instructor's permission.

Typically Offered
Summer

FASH 575 - Fashion Forecasting

Credits: 3

Introduction of the processes and methods used by the fashion industry to conduct short-term and long-term forecasts. Application of fashion theory and principles, sources of information, knowledge, techniques and skills for planning and implementing fashion projection.

Repeat for Credit
N

Requisites
Prerequisite: FASH 340 with a C or better and FASH 430 with a C or better; and FASH 375 with a C or better or FASH 400 with a C or better.

Typically Offered
Spring

FASH 576 - Retail Finance and Merchandise Control

Credits: 3

Introduction and application of fashion and soft goods merchandise assortment planning, forecasting operational expenses, vendor negotiations in merchandise purchases, retail profit planning, financial strategy, and economic sustainability. Emphasis on creating detailed spreadsheets in Excel.

Repeat for Credit
N

Requisites
Prerequisite: FASH 476 with a C or better; ACCTG 231 with a C or better.

Typically Offered
Fall

FASH 600 - Soft Goods Supply Chain Management

Credits: 3

Analysis of global fiber, textile, and apparel production and distribution; structure of fashion industry and distribution channels; impact of culture, economics, and government regulations on production and distribution.

Recommend Foundation Course: ECON 110 or ECON 120.

Repeat for Credit
N

Requisites
Prerequisite: FASH 245 with a C or better; Recommend Prerequisite: ECON 110 or ECON 120.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives

FASH 610 - Computer-aided Design of Fashion

Credits: 3

Development and presentation of fashion and textile design using visual graphic software.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: FASH 400 with a C or better.

Typically Offered
Fall

FASH 625 - Sustainable Fashion Business

Credits: 4

Application of marketing principles to the fashion industry. Focus on development of marketing, promotional, and merchandising plans.

Repeat for Credit
N

Requisites
Prerequisite: FASH 576, with a C or better, and senior or graduate standing.

Typically Offered
Spring

FASH 650 - Fashion Studies Study Tour

Credits: 1-3

Supervised off-campus tour of facilities or equivalent experience where softgoods products are designed, manufactured, tested, marketed, exhibited, and/or conserved.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FASH 655 - Flat Pattern

Credits: 3

Fashion design through flat pattern methods.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: FASH 400 with a C or better and FASH 410 with a C or better.

Typically Offered
Spring

FASH 670 - Pre-Production Technologies

Credits: 3

Computer applications in 2D for pattern drafting, grading, marker, and tech packs; 3D visualization and evaluation.

Note
Eight hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: FASH 655 with a C or better.

Typically Offered
Fall

FASH 680 - Sustainable Fashion and Color

Credits: 3

Sustainable fashion design and coloration strategies, systems, and standards; coloration of textiles with natural dye and sustainable methods.

Repeat for Credit
N

Typically Offered
Fall

FASH 700 - Foundations of Sustainability

Credits: 3

Introduction to principles and practices of sustainability. Examination of the challenges to environmental, social, and economic sustainability on both a global and soft goods industry scale. Exploration of innovative practices and social change strategies for furtherance of sustainability.

Repeat for Credit
N

Typically Offered
Spring

FASH 720 - Professional Advancement in Merchandising

Credits: 3

Analysis of leadership in a merchandising firm and how it affects organizational culture and change. Various leadership styles examined, and a personal leadership philosophy developed.

Repeat for Credit
N

Typically Offered
Summer

FASH 725 - Theory and Practice of Soft Goods Marketing and Distribution

Credits: 3

Theoretical and applied analysis of soft goods marketing and distribution strategies, with an emphasis on the effectiveness of a market-oriented approach for decision-making; assessment of environmental forces affecting strategic decisions by firms in the distribution channel; synthesis of past and present trends in order to forecast probably future patterns.

Repeat for Credit
N

Typically Offered
Spring

FASH 735 - Promotional Strategies in Merchandising

Credits: 3

Examination of promotional strategies and techniques used by merchandising firms, emphasizing cultural and global awareness, social responsibility, and ethical decision making.

Repeat for Credit
N

Typically Offered
Fall

FASH 740 - Merchandising Analytics

Credits: 3

Using quantitative data from the merchandising industry to support managerial decision making. Specifically, how to format and analyze Point of Sale (POS) and Enterprise Resource Planning (ERP) merchandising data with the goal of maximizing profitability. Applying analytical approaches to problem solving using Microsoft Excel. Strengthening decision making and analytical skills while providing new perspectives and approaches to apply quantitative techniques and methods to solve real-world merchandising problems.

Repeat for Credit
N

Typically Offered
Spring

FASH 805 - Practice-Based Research

Credits: 3

Examination and application of approaches for undertaking practice-based research in fashion studies.

Repeat for Credit
N

Typically Offered
On sufficient demand

FASH 810 - International Merchandise Management

Credits: 3

Comprehensive understanding of theory, practices, and trends in international merchandise management. Analysis of the global merchandising system and way goods are distributed to consumers in various countries.

Repeat for Credit
Y

Typically Offered
Fall

FASH 815 - Financial Merchandising Implications

Credits: 3

The advanced study of financial trends in the merchandising industries. Focus will be on the financial implications of recent advances in the field.

Repeat for Credit
Y

Typically Offered
Summer

FASH 825 - Strategic Planning for Sustainability

Credits: 3

Examination of the executive level planning process utilized to develop successful merchandising strategies; emphasis on the importance of a market orientation for building customer value and sustaining a competitive advantage.

Repeat for Credit
N

Requisites
Prerequisite: Instructor's Permission.

Typically Offered
Fall

FASH 830 - Fashion Behavior & Sustainability

Credits: 3

Evaluation of historical, sociological, psychological, economic, and theoretical underpinnings of fashion process, and examination of approaches fostering greater sustainable apparel consumption.

Repeat for Credit
Y

Typically Offered
On sufficient demand

FASH 840 - Product Development

Credits: 3

Advanced study of issues and management strategies necessary to design and produce a competitively priced product. Examination of the role of globalization and rapidly changing technology on the development of a successful product.

Repeat for Credit
Y

Requisites
Prerequisite: Instructor permission.

Typically Offered
Fall

FASH 845 - Consumers in the Soft Goods Market

Credits: 3

Analysis of consumers and their decision-making processes; examination of internal and external factors influencing evaluation and purchasing behavior in order to predict future consumption and purchasing patterns.

Repeat for Credit
Y

Typically Offered
Spring

FASH 850 - Research Methods in Fashion Studies

Credits: 3

Research methods that address practical and theoretical issues involved in designing, conducting, and evaluating research.

Repeat for Credit
Y

Requisites
Prerequisite: A graduate-level course in statistics.

Typically Offered
Spring

FASH 855 - Readings in Fashion Studies

Credits: 1-2

Directed reading and study of selected topics.

Repeat for Credit
Y

Requisites
Prerequisite: FASH 850.

Typically Offered
Fall, Spring, Summer

FASH 860 - Contemporary Topics in Fashion Studies

Credits: 1-3

Selected contemporary topics related to fashion studies.

Repeat for Credit
Y

Requisites
Prerequisite: 8 hours of credit basic to field.

Typically Offered
On sufficient demand

FASH 870 - Problems in Fashion Studies

Credits: 1-6

Independent study related to fashion studies.

Repeat for Credit
Y

Requisites
Prerequisite: Six hours credit basic to the field.

Typically Offered
Fall, Spring, Summer

FASH 875 - Practicum in Fashion Studies

Credits: 1-6

Preplanned and supervised off-campus experience in business, industry, museums, government agencies, or the cooperative extension service.

Repeat for Credit
Y

Requisites
Prerequisite: Twelve hours in the field.

Typically Offered
Fall, Spring, Summer

FASH 896 - Project Report

Credits: 1-3

Research and written documentation for the M.S. Project Report option.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of major professor.

Typically Offered
Fall, Spring, Summer

FASH 897 - Project Exhibit

Credits: 1-6

Project development for creative-oriented M.S. Project Report option resulting in a body of original works to be exhibited on campus during the final semester of the student's program.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of major professor.

Typically Offered
Fall, Spring, Summer

FASH 899 - Master's Thesis Research

Credits: 1-6

Research and written documentation for the M.S. Thesis option.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of major professor.

Typically Offered
Fall, Spring, Summer

FASH 990 - Dissertation Proposal Seminar

Credits: 1

Presentation and discussion of proposals for dissertation research.

Repeat for Credit
Y

Requisites
Prerequisite: Six hours of statistics, three hours of research design or methods, and consent of major professor.

Typically Offered
Fall, Spring

FASH 995 - Grantsmanship and Publication

Credits: 3

Grant writing, identifying external funding, managing grants, preparing manuscripts for peer-reviewed publication, and preparing papers and poster for presentation at professional meetings.

Repeat for Credit
Y

Requisites
Prerequisite: FASH 850 or other research methods course.

Typically Offered
On sufficient demand

FASH 999 - Dissertation Research in Fashion Studies

Credits: 1-12

Research in fashion studies for the doctoral dissertation.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of major professor.

Typically Offered
Fall, Spring, Summer

FDSCI 100 - Special Topics in FDSCI

Credits: 0-6

Seminars of special interest. Will be offered upon sufficient demand in selected areas relating to food science.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FDSCI 101 - Foundations in Food Science & Industry

Credits: 1

Introduction to the food science & industry programs, activities, resources, faculty and career opportunities.

Note
Required of all freshmen in food science & industry. One hour seminar a week.

Repeat for Credit
N

Requisites
Prerequisite: Freshman in FDSCI.

Typically Offered
Fall

FDSCI 202 - Introduction to Food Science

Credits: 3

This course is the beginning course in food science designed to acquaint the student with the breadth and scope of the food industry and the role of science in the preservation, processing, and utilization of foods.

Note
Three hours lecture a week.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences

FDSCI 230 - Food Science Problems

Credits: 0-6

Independent guided studies in any of the many fields associated with food science.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FDSCI 301 - Transfer Foundations in FDSCI

Credits: 0

An overview of the Food Science and Industry undergraduate program, including its undergraduate degree requirements, activities, and resources.

Repeat for Credit
N

Requisites
prerequisite: FDSCI major

Typically Offered
Fall, Spring

FDSCI 305 - Fundamentals of Food Processing

Credits: 3

The study of basic unit operations such as thermal processing, separation, chilling and freezing, dehydration, and fermentation as applied to the processing of food products.

Note
Two hours lecture and two hours lab a week

Repeat for Credit
N

Requisites
Prerequisite: A course in chemistry.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

FDSCI 310 - Food Science Professional Preparation

Credits: 1

This course prepares students to pursue and be successful

in food science careers. Students will develop professional resumes, identify internship and career opportunities, hone interviewing skills, examine standards of professionalism with respect to personal integrity and business ethics, and practice professional communication in oral and written formats.

Repeat for Credit
N

Requisites
Prerequisite: Open to Food Science majors with Sophomore Standing.

Typically Offered
Spring

FDSCI 330 - Food Science Problems

Credits: 0-6

Independent guided studies in any of the many fields associated with food science.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FDSCI 331 - Special Topics in Food Science

Credits: 0-6

Topics of special interest. Will be offered upon sufficient demand in selected areas relating to food science.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FDSCI 335 - Food Products Evaluation

Credits: 2

Introduction to the sensory evaluation of food products, including basic sensory testing methods, with special emphasis on proper judging techniques for evaluating dairy products.

Note
Four hours lab a week.

Repeat for Credit
N

Typically Offered
Fall

FDSCI 500 - Food Science Seminar

Credits: 1

Review of recent developments in the food science industry and in food science research. Food science literature and intradepartmental research will provide source material.

Note
Required of all food science undergraduates in agriculture.

Repeat for Credit
N

Typically Offered
Fall

FDSCI 501 - Food Chemistry

Credits: 3

An in-depth coverage of the chemical structures of major food components and the chemical reactions occurring during storage and processing.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: BIOCH 265 or CHM 350

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

FDSCI 510 - Fruit and Vegetable Processing

Credits: 2

Fundamental fruit and vegetable processes and related unit operations including blanching, cooling, freezing, canning, irradiation, fermentation, pickling, drying, packaging in relation to quality, safety, and nutritional aspects of related products. Importance of raw material characteristics and storage conditions will be discussed in terms of post-harvest physiology of fruits and vegetables and different product types. Functionality of ingredients common in fruit and vegetable processing will also be introduced.

Note
A companion laboratory (FDSCI 511) is also offered, but is not required.

Repeat for Credit
N

Requisites
Prerequisite: FDSCI 305 and MATH 205 or MATH 220

Typically Offered
Fall

FDSCI 511 - Fruit and Vegetable Processing Lab

Credits: 1

Lab component of FDSCI 510 Fruit and Vegetable Processing. The labs will demonstrate both industrial and lab scale applications of technologies, unit operations, quality measurements, and related processing calculations commonly used in fruit and vegetable processing.

Repeat for Credit
N

Requisites
Prerequisite OR Corequisite: FDSCI 510

Typically Offered
Fall

FDSCI 530 - Undergraduate Research in Food Science and Industry

Credits: 0-3

Mentored undergraduate research experience in food sciences.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

FDSCI 600 - Food Microbiology

Credits: 2

This course deals with the isolation, identification, enumeration, and characterization of bacteria, yeasts, molds and other microbes associated with foods and food processing. Effects of physical and chemical agents on micro-organisms will be studied. Microbiological problems in food spoilage, food preservation, food fermentation, and food-borne diseases will be discussed.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 255.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

FDSCI 601 - Food Microbiology Lab

Credits: 2

Laboratory procedures involving isolation, identification, enumeration, and characterization of bacteria, yeasts, molds and other microbes associated with foods and food processing.

Note
Two two-hour labs a week.

Repeat for Credit
N

Requisites
Prerequisite: FDSCI 600 or concurrent enrollment.

Typically Offered
Fall

FDSCI 603 - Food Science Internship

Credits: 0-6

Supervised professional field experience in food science.

Note
Consent of supervising instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FDSCI 625 - Food Analysis

Credits: 3

Analytical principles related to standards and regulations for food processing. Food analysis methods and techniques addressing proximate analysis, basic quantitative approaches and calculations, and some analytical instrumentation such as gas chromatography and HPLC.

Note
Offered in an online format only

Repeat for Credit
N

Requisites
Recommended Foundation Course: FDSCI 501

Typically Offered
Fall, Spring

FDSCI 627 - Chemical Methods of Food Analysis

Credits: 2

Methods for quantitative chemical analyses of foods products. Analytical techniques covered include proximate analysis, spectroscopy, chromatography, mass spectrometry and immunochemistry. The analyses will be related to standards and regulations for food processing.

Note
Three hours lecture and three hours lab a week. Meets during the first half of the semester.

Repeat for Credit
N

Requisites
Prerequisite: FDSCI 501

Typically Offered
Fall

FDSCI 628 - Physical Methods of Food Analysis

Credits: 2

Principles of physical methods of food analysis including techniques related to water activity, water content, color, soft materials, gel networks, interfacial phenomena and colloidal structure, texture, rheology, and vibrational spectroscopy.

Note
Three hours lecture and three hours lab a week. Meets during second half of semester.

Repeat for Credit
N

Requisites
Prerequisite: FDSCI 501

Typically Offered
Fall

FDSCI 630 - Food Science Problems

Credits: 0-6

Research or related work with others, or a literature search. Written reports are required. Any field of food science for which the student has adequate background.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FDSCI 640 - Research and Development of Food Products

Credits: 3

Research and development of new food products, including idea generation; market screening; focus groups; prototype development; ingredient functionality and interactions; statistical designs; processing; packaging; scale-up; regulatory issues; labeling; physical, chemical, microbiological and sensory evaluations; quality control procedures; and food safety plans.

Note
Two hours lecture and six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: FDSCI 305 Recommended Foundation Course: FDSCI 501 and FDSCI 600

Typically Offered
Fall

FDSCI 660 - International Study Experience in Food Science

Credits: 0-6

Seminar and travel course designed to prepare students before the experience and for students to analyze, critique, and report their experiences of an international experience associated with study tours or short courses. Course will focus on appropriate oral and written documentation of the student learning objectives for course experience. The academic topics will vary with each international activity.

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Historical Perspectives

FDSCI 690 - Principles of HACCP and Preventive Controls for Human Food

Credits: 3

A comprehensive study of the Hazard Analysis and Critical Control Point (HACCP) System and Preventive Controls for Human Food and their application in the meat and food industries. Students will meet the training requirements under USDA HACCP and the FDA Food Safety Modernization Act (FSMA) for food safety for human foods. The class is offered in person in the fall and online fall/spring.

Note
Three hours lecture and group activities per week. *Great Plains IDEA course

Repeat for Credit
N

Requisites
Prerequisite: Junior Standing. Recommended Prerequisite: BIOL 198 and CHM 110.

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

FDSCI 695 - Quality Assurance of Food Products

Credits: 3

A comprehensive course covering all aspects of quality assurance practices in the food industry. Emphasis is placed on interrelations of food chemistry, microbiology, sanitation, processing, and laws and regulations.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: One course in microbiology.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Natural and Physical Sciences

FDSCI 710 - Kosher and Halal Food Regulations

Credits: 2

This course is an introduction to the origin and application of Jewish and Muslim dietary laws and their application in commercial food production and processing with some coverage of home practices. Hebrew, Yiddish, and Arabic words and phrases will be presented and explained as they relate to kosher and halal food production, processing, and consumption. Religious festivals and customs, and the associated food products, will also be presented. Current food-related topics and issues in both the Jewish and Islam communities will be discussed. Food scientists should be aware of what constitutes a kosher or halal product and the importance of regulations dealing with the production and processing of these products.

Note
This is a web-based lecture course intended for off-campus distance education students. Lecture material is supplemented with web-based demonstrations.

Repeat for Credit
N

Requisites
Prerequisite: Junior Standing.

Typically Offered
Other

FDSCI 711 - Flavor Chemistry

Credits: 3

Covers the use and evaluation of flavor reactions and flavor chemicals used in food systems. The impact of fat, carbohydrates, proteins, and texture on foods, as well as other key topics such as ingredient sources for flavorings, regulating agencies, analytical tools and instruments used by flavor chemists are presented.

Repeat for Credit
N

Requisites
Prerequisite: CHM 350 or CHM 530 or a course in Organic Chemistry. Recommended prerequisite: FDSCI 501 or a course in Food Chemistry.

Typically Offered
Fall, Spring

FDSCI 712 - Food Packaging

Credits: 2

Covers the functionality of different food packaging types, as well as the materials and technology used in new package development. Packaging concept types as well as the functionality of different materials are presented.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Summer

FDSCI 713 - Rapid Methods and Automation in Microbiology

Credits: 2

Rapid methods and automation is a dynamic area in applied microbiology dealing with the study of improved methods in the isolation, detection, characterization, and enumeration of microorganisms and their products in clinical, food, industrial, and environmental samples. The knowledge and techniques of this course are useful for students interested in medical, food, industrial, and environmental microbiology for early detection of beneficial as well as harmful microorganisms in their work.

Repeat for Credit
N

Typically Offered
Intersession

FDSCI 720 - Reaction Kinetics in Foods

Credits: 2

A comprehensive course covering the principles of reaction kinetics in food systems to make quantitative predictions about food quality and food safety, and optimize food processing conditions.

Repeat for Credit
N

Requisites
Prerequisite: MATH 205 or MATH 220. Recommended Foundation Courses: FDSCI 600 or FDSCI 501.

Typically Offered
Spring

FDSCI 721 - Reaction Kinetics in Foods Recitation

Credits: 1

Recitation course covering the theories, case-studies, and exercise problems for the lecture course FDSCI 720, which needs to be taken concurrently.

Repeat for Credit
N

Requisites
Corequisite: FDSCI 720.

Typically Offered
Spring

FDSCI 725 - Food Analysis

Credits: 3

Principles, methods, and techniques necessary for quantitative, instrumental, physical, and chemical analyses of food products. Analytical techniques covered include proximate analysis, spectroscopy, chromatography (GC, HPLC), mass spectrometry, water activity, color, texture, rheology and interfacial phenomena.

Repeat for Credit
N

Requisites
Prerequisite: Graduate Student Standing Recommended Foundation Course: FDSCI 501

Typically Offered
Fall, Spring

FDSCI 727 - Chemical Methods of Food Analysis

Credits: 2

Methods for quantitative chemical analyses of foods products. Analytical techniques covered include proximate analysis, spectroscopy, chromatography, mass spectrometry and immunochemistry. The analyses will be related to standards and regulations for food processing.

Note
Three hours lecture and three hours lab a week. Meets during the first half of the semester.

Repeat for Credit
N

Requisites
Recommended Foundation Course: FDSCI 501.

Typically Offered
Fall

FDSCI 728 - Physical Methods of Food Analysis

Credits: 2

Principles of physical methods of food analysis including techniques related to water activity, water content, color, soft materials, gel networks, interfacial phenomena and colloidal structure, texture, rheology, and vibrational spectroscopy.

Note
One hour recitation, and three hours lab a week. Meets during second half of semester.

Repeat for Credit
N

Requisites
Recommended Foundation Course: FDSCI 501.

Typically Offered
Fall

FDSCI 730 - A Multidisciplinary Overview of Food Safety and Security

Credits: 2

Multidisciplinary food safety and security perspectives provided by numerous subject matter experts. Topics include food safety policy, ag bioterrorism, border security,

animal ID, food defense and site security, risk analysis, crisis communication, epidemiology, HACCP, and more.

Repeat for Credit
N

Requisites
Prerequisite: A course in biology or chemistry.

Typically Offered
Fall, Spring, Summer

FDSCI 731 - Food Protection and Defense--Essential Concepts

Credits: 2

This course presents foundational concepts relevant to protecting the food supply from intentional contamination, including the nature of the food and agriculture system as a critical infrastructure, threats to food and agricultural systems, as well as concepts and strategies related to response and mitigation of food protection incidents.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

FDSCI 740 - Research and Development of Food Products

Credits: 3

Research and development of new food products, including idea generation; market screening; focus groups; prototype development; ingredient functionality and interactions; statistical designs; processing; packaging; scale-up; regulatory issues; labeling; physical, chemical, microbiological and sensory evaluations; quality control procedures; and food safety plans.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Graduate Student Standing Recommended Foundation Courses: FDSCI 600, and FDSCI 501 or 815.

Typically Offered
Fall

FDSCI 750 - Food Toxicants

Credits: 2

Quantitation metabolism and mechanisms of action of major foodborne toxicants. Toxicant defense and control systems, risk analysis and assessment and application of food laws.

Note
GPIDEA course

Repeat for Credit
N

Requisites
Prerequisite: A course in biochemistry.

Typically Offered
Fall

FDSCI 751 - Food Laws and the Regulatory Process

Credits: 2

History of the development of the current federal and state food regulations. Guidelines that govern the practice of regulating the wholesomeness of red meats, poultry, and eggs. Presentations by state and federal food regulators.

Note
GPIDEA course

Repeat for Credit
N

Requisites
Prerequisite: Three credits in food science coursework at 200 level or above.

Typically Offered
Fall, Summer

FDSCI 791 - Advanced Application of HACCP Principles

Credits: 3

Evaluation of control parameters and methodology at critical control points, validating and auditing the effectiveness of critical control points, critical limits, monitoring tools, corrective action procedures, recordkeeping and verification procedures in addressing biological, chemical, and physical hazards that may be present in food products.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: FDSCI 690. Recommended prerequisite: BIOL 255.

Typically Offered
Spring-Odd Years

FDSCI 810 - Fermented Foods

Credits: 2

Application of the principles of microbiology to the understanding of the fermentation of various categories of foods. Chemical, biochemical and microbiological changes under controlled and uncontrolled conditions.

Note
*Great Plains IDEA course

Repeat for Credit
Y

Typically Offered
Spring-Even Years

FDSCI 811 - Food Fermentation

Credits: 4

Application of the principles of microbiology to the understanding of the fermentation of various categories of foods. Chemical, biochemical and microbiological changes under controlled and uncontrolled conditions.

Note
Two hours lecture and six hours lab a week.

Repeat for Credit
Y

Requisites
Prerequisite: BIOL 255.

Typically Offered
Spring

FDSCI 815 - Advanced Food Chemistry

Credits: 3

Relationship of chemical composition to properties and to physical and chemical stability of foods. Chemical reactions will be covered extensively. Special attention will be given to dairy and poultry products, red meats, vegetables, and cereal grains.

Repeat for Credit
Y

Requisites
Prerequisite: BIOCH 521, BIOCH 522.

Typically Offered
Fall

FDSCI 820 - Advanced Food Microbiology & Biotechnology

Credits: 2

Principles of food biotechnology, including introduction of molecular biology and enzyme immobilization. Theory and concepts of current biotechnology trends as it relates to food safety and security issues.

Note
*Great Plains IDEA course

Repeat for Credit
Y

Requisites
Prerequisite: A course in food microbiology or general microbiology, and a course in biochemistry

Typically Offered
Fall-Odd Years

FDSCI 840 - Public Health Practice

Credits: 3-6

Supervised field experience in an international, state, local, or district health agency or other appropriate health agency.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor. DMP 840, FNDH 840, and KIN 840.

Typically Offered
Fall, Spring, Summer

Cross-listed
MPH 840

FDSCI 850 - Food Science Graduate Seminar

Credits: 1

This course is designed to provide students with experience in developing and delivering a scholarly presentation on a specific topic. The course will include instruction on how to properly design technical presentations for effective communication. Students will learn how to use visual aids such as transparencies, slides and multimedia projectors. At least one technical presentation will be required. One credit required for an M.S. degree and 2 credits for a Ph.D. Degree.

Repeat for Credit
Y

Typically Offered
Spring

FDSCI 898 - Master's Report in Food Science

Credits: 1-2

A written report of either research or problem work on a topic in the major field.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FDSCI 899 - Master's Research in Food Science

Credits: 1-18

Research leading to the completion of a master's thesis.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FDSCI 907 - Food Dispersions

Credits: 2

Laws and theorems applied to the formation, mechanization and stabilization of food dispersions: properties of food dispersions; food solids, gels, batters, emulsions and foams.

Note
Two hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 815.

Typically Offered
Spring-Odd Years

FDSCI 915 - Food Toxicology

Credits: 2

This course deals with the study of occurrence, detection, and control of microbial toxins and chemical toxins in fresh and processed foods. The genetics, physiology, and mechanisms of toxin production by microbial cells and the chemistry, formation, and interactions of chemical toxins with food systems during food processing will be addressed.

Note
Two hours lecture a week.

Repeat for Credit
Y

Requisites
Prerequisite: ASI 607 and ASI 715.

Typically Offered
Spring-Odd Years

FDSCI 961 - Graduate Problem in Food Science

Credits: 1-6

In-depth study of a topic supervised by a member of the graduate faculty.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FDSCI 999 - Doctoral Research in Food Science

Credits: 1-18

Research leading to the completion of a Ph.D. Degree.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FFM 100 - Foundations in Food and Feed Manufacturing

Credits: 1

This online orientation course provides an introduction to the key instructors, facilities, online platform and functionalities needed to be successful in completion of the food and feed manufacturing AAS degree. Students will explore the fundamentals of how to use available systems and to successfully communicate with their professors. In addition, this course is designed to increase the students' academic and personal success in college by providing them with the scholarly, personal, and life management tools needed to function effectively and complete their AAS degree.

Repeat for Credit
N

Typically Offered
Fall

FFM 110 - Introduction to Grain and Food Manufacturing Industries

Credits: 1

This course provides an in-depth introduction to the structure and function of the grain and food manufacturing industries, focusing on their organization, key players, and market dynamics. Students will learn an overview of the operational processes, from raw material procurement to distribution, while also exploring the roles of major industry sectors such as grain elevators, grain milling, baking, and supply chain logistics. Emphasis will be placed on how different departments and functions collaborate to ensure efficient production and delivery. The course also highlights career paths, from entry-level roles to specialized positions, within these industries.

Repeat for Credit
N

Typically Offered
Fall

FFM 111 - Introduction to Feed and Pet Food Manufacturing Industries

Credits: 1

This course provides an in-depth introduction to the structure and function of the feed and pet food manufacturing industries, focusing on their organization, key players, and market dynamics. Students will learn an overview of the operational processes, from raw material procurement to distribution, while also exploring the roles of major industry sectors such as commercial feed mills, integrated feed mills, dry pet food, wet pet food, pet treats, and others. Emphasis will be placed on how different departments and functions collaborate to ensure efficient production and delivery of feed and pet food. The course also highlights career paths, from entry-level roles to specialized positions, within these industries.

Repeat for Credit
N

Typically Offered
Fall

FFM 120 - Ingredient Identification and Quality: Cereal Grains

Credits: 1

This course teaches students the skills necessary to identify various types of cereal grains and assess their quality. Students will learn about key physical and chemical characteristics, as well as the factors that influence grain quality such as growing conditions, handling, and storage. The course includes practical instruction on grading, testing, and evaluating grains for food and feed production. By the end of the course, students will be able to recognize common cereal grains and determine their suitability for different applications based on quality standards.

Repeat for Credit
N

Typically Offered
Fall

FFM 121 - Ingredient Identification and Quality: Oil Seeds and Legumes

Credits: 1

This course provides students with the knowledge and skills to identify various types of oilseeds and legumes and assess their quality. Students will explore the physical, chemical, and nutritional properties of these crops, along with the factors affecting their quality, such as cultivation, harvesting, and storage practices. The course offers practical instruction on grading, testing, and evaluating oilseeds and legumes for use in food and feed production. By the end of the course, students will be equipped to determine the quality and market value of oilseeds and legumes based on industry standards.

Repeat for Credit
N

Typically Offered
Fall

FFM 122 - Ingredient Identification and Quality: Co-products and Additives

Credits: 1

This course introduces students to the identification and quality assessment of ingredient co-products and additives used in food and feed production. Students will learn about common co-products, such as bran and meal, and various additives, including preservatives, emulsifiers, and vitamins. The course covers the factors that impact the quality and functionality of these ingredients, with practical instruction on evaluating their suitability for specific applications. By the end of the course, students will be equipped to assess ingredient quality and understand their roles in enhancing product performance.

Repeat for Credit
N

Typically Offered
Fall

FFM 150 - Preparing Grains

Credits: 1

This course provides an in-depth overview of the preparation of grains for the milling process, covering cleaning, conditioning, and handling techniques. Students will learn about grain characteristics, impurity removal, moisture adjustment, and the equipment used to prepare grains for efficient milling. The course emphasizes the importance of proper grain preparation to ensure optimal milling performance, product quality, and safety. By the end of the course, students will understand the critical steps involved in preparing grains for milling and their impact on final product outcomes.

Repeat for Credit
N

Typically Offered
Spring

FFM 151 - Milling Process

Credits: 1

This course provides an overview of the key processing steps involved in the milling process, including grinding, sifting, purifying, and packaging. Students will learn about the equipment used at each stage, how grain is transformed into flour or other products, and the importance of process control for product quality and efficiency. The course emphasizes the integration of each step to optimize production and maintain consistency in the final product. By the end of the course, students will have a clear understanding of the entire milling workflow and the factors that influence process performance.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 150

Typically Offered
Spring

FFM 152 - Milling Specialty Grains

Credits: 1

This course offers an overview of the unique processing steps involved in milling specialty grains, such as quinoa, spelt, and buckwheat. Students will explore how these grains differ from conventional wheat in terms of cleaning, grinding, sifting, and handling, with an emphasis on the specialized equipment and techniques required. The course highlights the challenges and opportunities in maintaining quality, nutrition, and functionality during the milling of specialty grains. By the end of the course, students will understand the distinct processing methods needed to optimize production and ensure quality in specialty grain milling.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 151

Typically Offered
Spring

FFM 159 - Intro to Milling Practicum

Credits: 1

This hands-on course offers an applied learning experience in grain processing and flour milling, providing students with a practical overview of industry operations. Students will engage in activities such as grain cleaning, grinding, sifting, and flour quality testing, while learning about the equipment and processes involved in milling. The course emphasizes real-world problem-solving and process optimization within grain and flour milling facilities. By the end of the course, students will have gained valuable hands-on experience, preparing them for operational roles in grain processing and milling.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 150

Typically Offered
Fall

FFM 160 - Bakery Ingredients

Credits: 1

This course provides an overview of the role and function of both micro and macro ingredients in the baking process, including flours, sugars, fats, leavening agents, emulsifiers, and flavorings. Students will learn how these ingredients interact to influence dough development, texture, flavor, and shelf life in baked products. The course emphasizes the importance of ingredient selection, measurement accuracy, and the impact of ingredient quality on the final product. By the end of the course, students will understand how to optimize ingredient use to produce high-quality baked goods consistently.

Repeat for Credit
N

Typically Offered
Spring

FFM 161 - Bakery Processes

Credits: 1

This course provides a comprehensive overview of the production steps involved in the baking process, including mixing, proofing, baking, cooling, and packaging. Students will examine each stage of production, from ingredient preparation to final product assembly, with an emphasis on how these steps affect product quality and consistency. The course covers best practices for optimizing each step to enhance efficiency and ensure product excellence. By the end of the course, students will have a thorough understanding of baking unit operations and the skills needed to manage and improve production processes.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 160

Typically Offered
Spring

FFM 162 - Bakery Products

Credits: 1

This course provides an overview of the diverse range of products produced in the baking industry, including bread, pastries, cakes, cookies, and specialized baked goods. Students will explore the characteristics, ingredients, and production techniques specific to each product category. The course emphasizes product differentiation, market trends, and the impact of formulation and processing on product quality. By the end of the course, students will have a broad understanding of the variety of baked goods and the factors influencing their production and success in the market.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 161

Typically Offered
Spring

FFM 169 - Intro to Baking Practicum

Credits: 1

This hands-on course provides an applied learning experience offering a comprehensive overview of the baking industry. Students will engage in practical activities such as mixing, baking, and quality testing, while learning about the equipment and processes used in commercial bakeries. The course emphasizes understanding ingredient functionality, production techniques, and troubleshooting common issues in bakery operations. By the end of the course, students will have gained real-world experience, preparing them for technical and management roles in the baking industry.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 160

Typically Offered
Fall

FFM 170 - Feed Processing

Credits: 1

This course provides a comprehensive overview of the feed manufacturing process, focusing on process flow, equipment identification, and operational techniques. Students will learn about the key stages of feed production, from raw material intake to mixing, pelleting, and packaging, as well as the roles of various equipment used in each stage. The course includes practical insights into equipment operation, maintenance, and troubleshooting to ensure efficient and safe feed production. By the end of the course, students will understand the complete feed manufacturing process and be able to identify and operate essential machinery.

Repeat for Credit
N

Typically Offered
Spring

FFM 171 - Pet Food Processing

Credits: 1

This course provides an in-depth overview of the pet food manufacturing process, covering the production of dry food, wet food, canned food, and pet treats. Students will explore the process flow for each type of product, learning how raw materials are processed, formulated, and packaged, along with the identification and operation of key equipment used in each stage. The course emphasizes the technical aspects of machinery operation, maintenance, and quality control specific to pet food manufacturing. By the end of the course, students will have a comprehensive understanding of how different pet foods are produced and the equipment involved in their creation.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 170

Typically Offered
Spring

FFM 172 - Finished Feed and Pet Food Quality Assurance

Credits: 1

This course offers an overview of quality assurance practices in the feed and pet food manufacturing processes, focusing on maintaining product safety, consistency, and regulatory compliance. Students will learn about key

quality control measures, testing protocols, and industry standards for ingredient sourcing, production, and packaging. The course also covers the tools and technologies used to monitor and ensure product quality throughout the manufacturing process. By the end of the course, students will understand how quality assurance impacts the overall success and safety of feed and pet food products.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 171

Typically Offered
Spring

FFM 179 - Intro to Feed and Pet Food Practicum

Credits: 1

This hands-on course offers an applied learning experience that provides an overview of feed manufacturing and pet food processing. Students will engage in practical activities such as ingredient handling, formulation, mixing, pelleting, extrusion, canning, and quality testing, while learning about the equipment and processes involved in both industries. The course emphasizes real-world problem-solving, production optimization, and maintaining product quality and safety. By the end of the course, students will have gained valuable experience in the operational aspects of feed and pet food manufacturing, preparing them for technical and managerial roles.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 172

Typically Offered
Fall

FFM 199 - Food and Feed Manufacturing Independent Study

Credits: 0-6

Student-specific projects or independent guided studies in any of the many fields associated food and feed manufacturing.

Note
Department Consent Required

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FFM 200 - Topics in Food and Feed Manufacturing

Credits: 0.5-6

Topics of special interest. Will be offered upon sufficient demand in selected areas relating to food and feed manufacturing.

Repeat for Credit
Y

Typically Offered
On sufficient demand

FFM 210 - Food and Feed Manufacturing Equipment Maintenance

Credits: 1

This course introduces students to the fundamentals of equipment maintenance in food and feed manufacturing, focusing on routine upkeep, troubleshooting, and repair techniques. Students will learn about the types of equipment commonly used in the industry, as well as best practices for maintaining operational efficiency and minimizing downtime. The course includes practical insights into preventive maintenance strategies and common issues that arise in equipment operations. By the end of the course, students will be equipped to implement effective maintenance programs and ensure the reliability of manufacturing equipment.

Repeat for Credit
N

Typically Offered
Fall

FFM 215 - Preventative and Predictive Maintenance: Milling Specific

Credits: 1

This course focuses on developing equipment maintenance programs specifically for the grain and flour milling industries. Students will learn to design and implement maintenance schedules tailored to the unique demands of milling equipment, including preventive and predictive maintenance strategies. The course covers techniques for diagnosing common equipment issues and best practices for minimizing downtime and extending equipment life. By the end of the course, students will be prepared to create and manage effective maintenance programs that optimize performance and reliability in grain and flour milling operations.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 210

Typically Offered
Fall

FFM 216 - Maintenance Programs: Bakery Specific

Credits: 1

This course provides an in-depth exploration of developing equipment maintenance programs tailored to the baking industry. Students will learn how to design and implement maintenance schedules for bakery equipment, including ovens, mixers, and packaging machines, with a focus on preventive and corrective measures. The course covers techniques for troubleshooting common issues, ensuring compliance with industry standards, and optimizing equipment performance. By the end of the course, students will be equipped to create and manage maintenance programs that enhance the efficiency and longevity of bakery operations.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 210

Typically Offered
Fall

FFM 217 - Maintenance Programs: Feed and Pet Food Specific

Credits: 1

This course focuses on developing equipment maintenance programs tailored specifically to feed and pet food manufacturing facilities. Students will learn to design and implement maintenance schedules for machinery used in processing, mixing, and packaging feed and pet food, emphasizing preventive and corrective maintenance strategies. The course includes practical training on diagnosing equipment issues, ensuring compliance with industry standards, and enhancing operational efficiency. By the end of the course, students will be adept at creating and managing maintenance programs that optimize the performance and reliability of equipment in feed and pet food manufacturing.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 210

Typically Offered
Fall

FFM 225 - Milling Equipment Maintenance Practicum

Credits: 1

This hands-on course offers students practical experience in equipment maintenance programs specific to grain processing and flour milling facilities. Students will learn to perform routine inspections, preventive maintenance, and basic repairs on critical milling equipment, such as conveyors, sifters, and grinders. The course emphasizes real-world problem-solving and the importance of maintaining equipment to minimize downtime and improve operational efficiency. By the end of the course, students will have gained valuable skills in managing maintenance programs, ensuring the reliability and longevity of equipment in grain and flour milling operations.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 215

Typically Offered
Fall

FFM 226 - Baking Equipment Maintenance Practicum

Credits: 1

This hands-on course provides students with practical experience in developing and implementing equipment maintenance programs specific to baking facilities. Students will work with common bakery machinery, such as ovens and mixers, learning preventive maintenance techniques, troubleshooting methods, and basic repairs. The course focuses on maintaining operational efficiency, minimizing downtime, and ensuring equipment safety in a bakery setting. By the end of the course, students will have the skills needed to manage maintenance programs that enhance the performance and longevity of bakery equipment.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 216

Typically Offered
Fall

FFM 227 - Feed Equipment Maintenance Practicum

Credits: 1

This hands-on course provides practical experience in developing and implementing equipment maintenance programs for feed manufacturing and pet food processing facilities. Students will work with machinery such as mixers, extruders, conveyors, and packaging equipment, learning preventive maintenance, troubleshooting, and basic repair techniques. The course emphasizes maintaining equipment efficiency, minimizing downtime, and ensuring product safety and quality. By the end of the course, students will have gained the skills necessary to manage maintenance programs that optimize equipment performance in feed and pet food production.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 217

Typically Offered
Fall

FFM 250 - Advanced Food and Feed Manufacturing Management

Credits: 1

This course offers a comprehensive overview of managing food and feed manufacturing facilities, with a focus on integrating statistical process controls and Lean Six Sigma methodologies. Students will learn how to apply statistical tools to monitor and improve production processes, as well as implement Lean Six Sigma principles to enhance efficiency and reduce waste. The course covers key management strategies for optimizing facility operations, ensuring product quality, and complying with industry regulations. By the end of the course, students will be equipped to manage manufacturing operations effectively, utilizing data-driven approaches and continuous improvement techniques.

Repeat for Credit
N

Requisites
FFM 152 or FFM 162 or FFM 172

Typically Offered
Spring

FFM 251 - Advanced Milling Management

Credits: 1

This course provides an advanced exploration of management techniques specific to grain and flour milling facilities. Students will delve into sophisticated strategies for optimizing milling processes, improving operational efficiency, and ensuring product quality. The course includes in-depth coverage of advanced technologies, process control systems, and management practices tailored to the unique challenges of the milling industry. By the end of the course, students will have the expertise to lead and manage grain and flour milling operations effectively, leveraging advanced management techniques to enhance productivity and sustainability.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 250

Typically Offered
Spring

FFM 252 - Advanced Milling Manufacturing Management Practicum

Credits: 1

This hands-on course offers students practical experience in managing the day-to-day operations of grain milling and flour milling facilities. Students will engage in activities such as overseeing production processes, managing equipment, coordinating staff, and ensuring product quality and safety. The course emphasizes problem-solving, workflow optimization, and adherence to industry regulations to ensure efficient facility management. By the end of the course, students will be equipped with the skills to lead and manage a milling facility, balancing operational efficiency and product quality.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 251

Typically Offered
Spring

FFM 261 - Advanced Bakery Management

Credits: 1

This course explores advanced management practices specific to bakery facilities, focusing on optimizing production processes, enhancing product quality, and integrating innovative technologies. Students will study advanced techniques for managing bakery operations, including process control, and supply chain management. The course also covers methods and tools to improve production efficiency, performance, capability, profitability, and quality in a bakery operation. By the end of the course, students will be equipped with the skills to lead bakery facilities effectively, driving efficiency and maintaining high standards of product excellence.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 250

Typically Offered
Spring

FFM 262 - Advanced Baking Manufacturing Management Practicum

Credits: 1

This hands-on course provides students with practical experience in managing the operations of a commercial baking facility. Students will engage in overseeing production processes, managing staff, maintaining equipment, and ensuring product quality and food safety. The course emphasizes process optimization, inventory control, and adherence to regulatory standards specific to the baking industry. By the end of the course, students will have the skills and knowledge to efficiently manage a baking facility, balancing operational demands with quality control.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 261

Typically Offered
Spring

FFM 271 - Advanced Feed and Pet Food Management

Credits: 1

This course offers an advanced examination of management practices tailored for feed and pet food facilities, emphasizing strategies for optimizing production, ensuring quality control, and integrating cutting-edge technologies. Students will explore advanced operational techniques, including automation, process optimization, and regulatory compliance specific to feed and pet food manufacturing. The course also covers strategic decision-making, resource management, and staff leadership to address the unique challenges of these industries. By the end of the course, students will possess the expertise to effectively manage feed and pet food facilities, driving operational excellence and innovation.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 250

Typically Offered
Spring

FFM 272 - Advanced Feed and Pet Food Manufacturing Management Practicum

Credits: 1

This hands-on course offers students practical experience in the daily operations of feed manufacturing and pet food processing facilities. Students will engage in activities such as overseeing production processes, managing ingredient handling, operating machinery, and ensuring product quality and safety. The course emphasizes workflow optimization, regulatory compliance, and the integration of food safety standards within the industry. By the end of the course, students will be prepared to manage and optimize operations in feed and pet food production facilities.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 271

Typically Offered
Spring

FFM 280 - Introduction to Food and Feed Safety

Credits: 1

This course introduces students in technical education to foundational concepts in food and feed safety, focusing on the identification and control of various hazards. Students will learn about the different types of hazards—physical, chemical, and biological—and explore key biological and viral pathogens that can impact food and feed production. The course covers essential safety practices, regulatory standards, and methods for preventing contamination. By the end of the course, students will understand the importance of hazard identification and control in maintaining food and feed safety.

Repeat for Credit
N

Typically Offered
Spring

FFM 285 - Food Safety Principles in Milling and Baking

Credits: 1

This course provides a comprehensive overview of Hazard Analysis and Critical Control Points (HACCP), a systematic approach to food safety management for the milling and baking industries. Students will learn to identify potential hazards, establish critical control points, and implement monitoring procedures to ensure the safety of products. The course covers the seven principles of HACCP, risk assessment techniques, and compliance with industry regulations. By the end of the course, students will be equipped to develop, manage, and evaluate HACCP plans in food production environments.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 280

Typically Offered
Spring

FFM 287 - Advanced Feed and Pet Food Safety

Credits: 1

This course prepares students to become Preventive Control Qualified Individuals (PCQI), equipping them with the skills to develop and implement food safety plans in accordance with FDA regulations. Students will learn how to identify hazards, establish preventive controls, monitor processes, and ensure compliance with the Food Safety Modernization Act (FSMA). The course covers risk-based preventive controls, corrective actions, and verification procedures. By the end of the course, students will be qualified to oversee and manage food safety systems in a variety of food production environments.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: FFM 280

Typically Offered
Spring

FINAN 250 - Personal Investing and Risk Management

Credits: 3

Provides a framework for identifying, analyzing, and

managing the lifetime financial risks faced by the average person. An overview of the types and mechanics of investment instruments, development of personal risk profiles and investment plans, asset allocation methods, diversifiable and non-diversifiable risk, and risk avoidance and hedging methods.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing and MATH 100.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

FINAN 301 - Sports Finance

Credits: 3

This course explores the unique financial issues in collegiate athletics including scholarships, NIL, and professional contracts, and how financial markets and institutions interact with athletics. Topics include budgeting for scholarships, NIL, and professional contracts; capital markets, banking, risk management in college athletics; and finance in athletic careers.

Repeat for Credit
N

Typically Offered
Fall, Spring

FINAN 450 - Principles of Finance

Credits: 3

Study of the basic principles of finance, including discounted cash flow analysis, risk-return tradeoff, asset pricing models, and financial and real asset valuation. Applications of these concepts to the firm's investment and financing decisions and performance analysis will be discussed.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 231.
Prerequisite or Corequisite: STAT 250, or STAT 225 or STAT 510 and ECON 110 or ECON 120 or AGEC 120.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

FINAN 451 - Introduction to Integrated Investment Management

Credits: 3

This course provides a survey of the investment management industry. The course examines various aspects of the investment management industry including discussions of investment markets, products, companies, and strategies. The course also examines the business of investment management by surveying each of the functional areas of investment management industry: accounting, finance, management, and marketing. The course introduces students to the basics of investment management and the course provides a survey of the legal and ethical environments in the investment management industry.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 231.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

FINAN 460 - Insurance

Credits: 3

A study of life, property, casualty, and health insurance from the purchaser's point of view with additional emphasis on the operation and contribution of the insurance industry.

Repeat for Credit
N

Requisites
Prerequisite: ECON 110.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

FINAN 490 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research projects.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FINAN 498 - Problems in Finance

Credits: 1-18

Internship program and selected projects appropriate to the student's program of study.

Note
Consent of department head based on background courses appropriate to the project selected.

Repeat for Credit
Y

Typically Offered
Fall

FINAN 500 - Investment Management Concepts

Credits: 3

An introduction and study of the issues and skills involved in successful investment management. This course will survey the role of capital markets, the basics of fundamental and technical analysis, behavioral finance, the basic of financial statements, client development, and management skills necessary for investment management success.

Repeat for Credit
N

Requisites
Prerequisite: FINAN 450.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

FINAN 510 - Financial Institutions and Markets

Credits: 3

An analysis of financial institutions and markets from a risk management point of view. The role of financial institutions in the marketplace, the determinants of interest rates, and the impact of inflation on asset returns will be examined. Risks in financial institutions will be analyzed and management of these risks will be emphasized.

Note
May be taken concurrent with FINAN 520.

Repeat for Credit
N

Requisites
Prerequisite: FINAN 450.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

FINAN 520 - Investments

Credits: 3

An analysis of investment securities from the investor's point of view. Topics covered include the mechanics of investing in securities and market basics, the risk-return tradeoff, asset pricing models, market efficiency, the valuation of securities, portfolio performance measurement, and an introduction to derivatives.

Note
May be taken concurrent with FINAN 510.

Repeat for Credit
N

Requisites
Prerequisite: FINAN 450.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

FINAN 531 - Commercial Banking

Credits: 3

An application of financial management concepts to the liquidity management, investment portfolio analysis, capital budgeting, and capital structure decision-making process required by a commercial bank to perform effectively its financial intermediation role within the financial system's institutional, regulatory, and competitive environment.

Repeat for Credit
N

Requisites
Prerequisite: FINAN 510 and FINAN 520.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

FINAN 552 - Real Estate

Credits: 3

Principles and practices including legal, economic, and social implications from the viewpoint of the real estate practitioner, investor, and society.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

FINAN 555 - Finance Scholars Seminar

Credits: 0

Weekly seminar for the students in the Kansas State University Finance Scholars Program

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

FINAN 560 - Concepts in Financial Technology

Credits: 3

Introduces the most recent technological innovations which affect how capital market participants perform functions such as borrowing, lending, contracting, and transacting. These include blockchain for business, decision support systems, and innovations in marketplace lending

Repeat for Credit
N

Typically Offered
Fall

FINAN 561 - Finance for Entrepreneurs

Credits: 3

A comprehensive set of knowledge and tools to start, run, and exit an entrepreneurial or small business. These tools include financial forecasting and business planning, financing operations and capital investments, evaluation of asset acquisitions, tax planning, short-term capital management, mergers/acquisitions, and evaluation of exit strategies.

Repeat for Credit
N

Requisites
Prerequisite: FINAN 450.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

FINAN 575 - Intermediate Finance

Credits: 3

An in-depth study of a firm's investment and financing decisions, firm performance measurement and financial planning for a business enterprise. Topics include financial statement analysis and forecasting, capital budgeting, risk considerations in capital budgeting, cost of capital, capital structure theory and practice, distribution policy, leasing and mergers and acquisitions.

Repeat for Credit
N

Requisites
Prerequisite: FINAN 510 and FINAN 520.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

FINAN 620 - Fixed Income Securities and Markets

Credits: 3

Provides an overview of fixed income markets and conventions; the analytical underpinning of fixed income markets and securities; and fixed income derivatives.

Repeat for Credit
N

Requisites
Prerequisite: FINAN 510 and FINAN 520

Typically Offered
Spring

FINAN 623 - Financial Modeling

Credits: 3

This course is designed to provide an in-depth knowledge of the use of Excel for use in the corporate finance and equity valuation environment. Topics include: • Use of Excel •Developing Models in Excel • Developing functional understanding of how to use Excel.

Repeat for Credit
N

Requisites
Prerequisite: (FINAN 510 and FINAN 520) or FINAN 830.

Typically Offered
Fall, Spring

FINAN 643 - International Financial Management

Credits: 3

The international (cross-currency) aspects of financial management. Topics include currency markets and exchange rate determination, parity conditions, foreign exchange exposure and management, and valuation of international projects.

Repeat for Credit
N

Requisites
Prerequisite: (FINAN 510 and FINAN 520) or FINAN 815.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Global Issues and Perspectives

FINAN 653 - Security and Portfolio Analysis

Credits: 3

The analysis and valuation of securities and the management of investment portfolios. Students analyze the composition of, make buy/sell recommendations for, and evaluate the performance of an actual portfolio.

Repeat for Credit
N

Requisites
Prerequisite: (FINAN 510 and FINAN 520) or FINAN 815.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

FINAN 654 - Derivative Securities and Markets

Credits: 3

Structure and operation of markets for futures, swaps, options, synthetic options, and futures on options. Valuation of futures contracts and options. Applications of derivatives to hedging and speculating strategies.

Repeat for Credit
N

Requisites
Prerequisite: (FINAN 510 and FINAN 520) or FINAN 815.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

FINAN 655 - Advanced Portfolio Management

Credits: 3

Provides students the background knowledge in portfolio management. This will include learning about: investment mix and policy, investment objectives, differing asset allocations for individuals and institutions, and balancing risk and performance.

Repeat for Credit
N

Requisites
Prerequisites: FINAN 510, FINAN 520, and acceptance to the Financial Analyst Track

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

FINAN 661 - Professional Financial Planning

Credits: 3

A study of the principles and practices of professional financial planning using an integrated planning model. Topics include the planning environment, concepts, tax management, asset acquisition and management, credit management, risk management, investments, retirement planning, and estate planning. Contemporary applications, professional opportunities, and legal/ethical standards are emphasized.

Repeat for Credit
N

Requisites
Prerequisite: FINAN 510 and FINAN 520.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

FINAN 663 - Mergers and Acquisition

Credits: 3

Presents the theories and empirical evidence on mergers, acquisitions, and restructuring, and analyzes the effects of various policy options on stock values of acquirer and target companies.

Repeat for Credit
N

Requisites
Prerequisites: FINAN 575, FINAN 623, and acceptance to Financial Analyst Track.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

FINAN 675 - Cases in Finance

Credits: 3

Capstone course in finance utilizing real world cases to integrate and apply financial concepts and theories, with emphasis on analytical and written and oral communication skills.

Repeat for Credit
N

Requisites
Prerequisite: FINAN 575, and senior level students admitted in a College of Business Administration degree track or graduate standing.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

FINAN 715 - Foundations of Finance

Credits: 3

Advanced financial concepts and tools with emphasis on corporate valuation. Topics include risk and return, valuation techniques, capital budgeting, capital structure, options and futures, real options, and financial risk management.

Repeat for Credit
Y

Requisites
Prerequisite: ACCTG 810.

Typically Offered
Spring

FINAN 798 - Special Topics in Finance

Credits: 1-9

Selected projects appropriate to the student's program of study.

Repeat for Credit
N

Typically Offered
Fall, Spring

FINAN 820 - Advanced International Financial Management

Credits: 3

A study of the international dimensions of corporate financial management with an applied orientation.

Repeat for Credit
Y

Requisites
Prerequisite: FINAN 715.

Typically Offered
Spring

FINAN 830 - Financial Market Theory

Credits: 3

Development and analysis of conceptual framework for understanding (1) the functions performed by financial markets and their associated institutional arrangements, and (2) the contractual claims in transferring savings among business, household, and government participants in the economic system.

Repeat for Credit
Y

Requisites
Prerequisite: FINAN 715 or (FINAN 450 and ACCTG 433)

Typically Offered
Fall

FINAN 840 - Entrepreneurial Finance

Credits: 3

This course will provide potential entrepreneurs a sufficient knowledge of applied finance needed to start and run an entrepreneurial business. Concepts covered will include the basic paradigms of finance such as risk and portfolio diversification. Discussions of the accounting environment of a small business and how the financial conditions can be analyzed will also be included. Finally, the course will focus on the financial skills a beginning entrepreneur will need to know to operate a small business, such as valuation, short-term capital management, financing decisions, and the exit strategies available to such enterprises.

Repeat for Credit
Y

Requisites
Prerequisite: FINAN 815.

Typically Offered
On sufficient demand

FINAN 890 - Seminar in Finance

Credits: 3

In-depth study of selected contemporary issues in finance.

Repeat for Credit
Y

Requisites
Prerequisite: FINAN 815.

Typically Offered
On sufficient demand

FINAN 898 - Advanced Problems in Finance

Credits: 0-18

Independent study of selected advanced topic(s) in finance.

Note
Consent of department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FNDH 110 - Introduction to Public Health

Credits: 3

This is an introductory survey course designed to provide a history of public health, an overview of the five core disciplines (epidemiology, biostatistics, environmental health, social and behavioral health, and health policy and management), and information about career options in public health. Using these introductory materials as a foundation, students will investigate and analyze contemporary issues in public health such as bioterrorism, threats to the nation's food supply, the importance of health promoting behaviors in the prevention of disease, burden and distribution of infectious diseases on a global population, and the role of public health disaster preparedness and management.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
DMP 110, KIN 230

K-State 8
Global Issues and Perspectives
Social Sciences

FNDH 115 - Introduction to Health and Nutrition Professions

Credits: 3

An interdisciplinary introductory course that covers foundational concepts needed by all health and nutrition professions. Topics include a healthcare system overview, health services financing, interprofessional health care practice, professional licensure/credentialing/scope of practice, a survey of health professions, the intersection between healthcare and public health program/policy, and professional topics (ethics, interpersonal skills, cultural competency, critical thinking, and evidence-based practice).

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

FNDH 120 - Introduction to Athletic Training

Credits: 2

Introduction to athletic training for first year athletic training majors. Emphasis will be on sports medicine team, legal concerns, pre-participation physicals, basic principles of injury prevention, policies and procedures.

Note
Students must be concurrent enrolled in FNDH 121.

Repeat for Credit
N

Requisites
Prerequisite: Athletic training majors only, and concurrent

enrollment in FNDH 121.

Typically Offered
Fall, Spring

K-State 8
Social Sciences

FNDH 121 - Introduction to Athletic Training Lab

Credits: 1

Introduction to athletic training for first year athletic training majors. Students will be required to complete a competencies skill list with a passing grade. Clinical hours in the athletic training room will give the student the opportunity to use the knowledge, skills, and techniques learned in this course.

Note
The student must complete clinical hours that do not count toward their practicum requirements, but are required for application to the professional phase of the athletic training education program. Students must be concurrent enrolled in FNDH 120.

Repeat for Credit
N

Requisites
Prerequisite: Athletic training majors only, and concurrent enrollment in FNDH 120.

Typically Offered
Fall, Spring

K-State 8
Social Sciences

FNDH 130 - Careers in Nutrition and Dietetics

Credits: 1

An introduction to career opportunities in the field of nutrition and dietetics with emphasis on academic preparation, acquisition of professional credentials, and career laddering. Guest speakers from various areas of professional practice will supplement lectures and student assignments.

Repeat for Credit
N

Typically Offered
Fall

FNDH 132 - Basic Nutrition

Credits: 3

Concepts of human nutrition applied to personal food choices and health.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

FNDH 220 - Care and Prevention of Athletic Injuries

Credits: 3

Principles and practices of treatment, taping, and care of minor athletic injuries.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

FNDH 252 - Personal Wellness

Credits: 3

Impact of the effect of personal actions on lifelong wellness. Practical methods of assessing, maintaining, and improving behaviors to reduce the risk of illness and disability. Emphasis on developing skills to make informed, responsible health decisions.

Repeat for Credit
N

Typically Offered

Fall, Spring, Summer

K-State 8
Natural and Physical Sciences

FNDH 300 - Dietetics ServSafe Manager Certification

Credits: 0

Supports student completion of ServSafe Manager online certification exam (National Restaurant Association) which is required for enrollment in FNDH 342. Course is credit/no credit. Credit is earned by uploading ServSafe Manager certification card. Students will register and pay for the ServSafe online exam through the National Restaurant Association https://www.servsafe.com/

Note
ServSafe Manager Certification is required for enrollment in FNDH 342.

Repeat for Credit
N

Requisites
Prerequisite: FNDH majors or instructor permission

Typically Offered
Fall, Spring, Summer

FNDH 301 - Food Trends, Legislation, and Regulation

Credits: 3

Current trends in market forms, packaging, and utilization of various foods. Food laws, regulation, labeling, additives, and residues.

Repeat for Credit
N

Typically Offered
Spring-Odd Years

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

FNDH 311 - Health Promotion and Behavior

Credits: 3

Designed to provide students with skills for application to health behavior and health promotion within public health settings. Emphasis on understanding health behavior theories and applying theories to health promotion efforts in public health.

Repeat for Credit
N

Requisites
Prerequisite: A grade of C or higher in KIN 230 OR FNDH 115.

Typically Offered
Spring

FNDH 313 - Science of Food

Credits: 4

Chemical, physical, sensory, and nutritional properties of food related to processes used in food preparation.

Note
Three hours lecture and two hours lab a week.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

FNDH 321 - Medical Documentation

Credits: 2

This course is to prepare students with the knowledge of medical nomenclature related to human systems, diseases, and scientific concepts for applications of electronic medical documentation (Electronic Medical Records; EMR) and scientific communication.

Repeat for Credit
N

Typically Offered
Fall, Spring

FNDH 340 - Food and Health: Safety, Allergies and Intolerances

Credits: 3

An overview of the food system as it relates to the field of dietetics, focusing on issues that impact the quality, safety, accessibility, and sustainability of food. The course includes the systems approach, food safety principles, food allergy/intolerances principles, food contamination, religious issues, and related government regulations. This course will cover the following topics: food safety, food allergies and intolerances, sustainability, religious and cultural issues that affect food safety and health. Specific applications of these topics will be made for the dietetics profession (institutions, health care settings, grocery stores, etc.)

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

FNDH 355 - Rehabilitation and Exercise Modification Techniques I

Credits: 3

This course will cover the fundamental aspects of tactical strength and conditioning, and injury prevention techniques that occur during physical activity.

Repeat for Credit
Y

Requisites
Prerequisite: Instructor approval required.

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences

FNDH 400 - Human Nutrition

Credits: 3

Nutrients, their function, metabolism, and relation to health and disease: the digestion, absorption, transport, utilization, and storage of nutrients in humans.

Repeat for Credit
N

Requisites
Prerequisite: CHM 110 and CHM 111 or CHM 210; BIOL 198.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

FNDH 442 - Management in Dietetics I

Credits: 4

Application and principles of food production and management that evaluate the system from inputs through transformation to outputs. Includes aspects of planning, control, outcomes, safety, communication and decision making.

Note
Students are required to find a food production facility for lab work and need approval from the instructor prior to the first day of class. Students are required to pass the ServSafe Managers exam by the end of the first week in order to complete labs for the semester. Will spend approximately 2-4 hours per week in lab.

Repeat for Credit
N

Requisites
Corequisite: FNDH 313

Typically Offered
Fall, Spring

FNDH 450 - Nutritional Assessment

Credits: 2

Methods of nutritional assessment in humans to evaluate dietary intake and body composition; use of biologic markers of human nutritional status.

Repeat for Credit

N

Requisites
Prerequisite: FNDH 132 and sophomore standing.

Typically Offered
Spring

K-State 8
Natural and Physical Sciences

FNDH 455 - Rehabilitation and Exercise Modification Techniques II

Credits: 3

This course is designed to provide an academic platform to apply and enhance knowledge and skills in rehabilitation techniques for humans. Focus is on applying progressive resistive exercise programs for athletes who are engaged in reconditioning and rehabilitation programs.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 355.

Typically Offered
Summer

FNDH 490 - Practicum in Clinical Dietetics

Credits: 2

Through a series of case studies and projects, this course introduces the student dietitian to the basics of the practice of clinical dietetics including review of the medical record, nutritional assessment and documentation of medical nutrition therapy in the medical record. Students gain practical experience by completing shadowing experiences with a dietitian in clinical practice.

Repeat for Credit
N

Typically Offered
Spring

FNDH 499 - Problems in Human Nutrition

Credits: 1-18

Supervised individual project to study current topics or participation in research.

Repeat for Credit
Y

Requisites
Prerequisite: Six hours in FNDH and consent of instructor.

Typically Offered
Fall, Spring, Summer

FNDH 510 - Life Span Nutrition

Credits: 2

Physiological and environmental influences on nutritional requirements; nutritional problems and eating patterns of age groups throughout the life cycle.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 400 and FNDH 450.

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences

FNDH 515 - Counseling Strategies in Dietetic Practice

Credits: 3

Application of interviewing, counseling, and educational techniques in dietetics, including individual and group methods.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 450

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

FNDH 516 - Communication Competencies in Dietetics Practice

Credits: 1

Assessment of audiences and development of effective food/nutrition messages in community settings.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 515 or concurrent enrollment.

Typically Offered
Spring, Summer

K-State 8
Social Sciences

FNDH 517 - Communication Competencies in Dietetics Practicum

Credits: 1

Application of principles learned in FNDH 516 Communication Competencies in Dietetics Practice to the development, implementation, and evaluation of a community project under the guidance of a community mentor.

Repeat for Credit
N

Requisites
Prerequisite: Admission into the coordinated program in dietetics; concurrent enrollment in FNDH 516 and FNDH 521.

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

FNDH 519 - Introduction to Clinical Dietetics

Credits: 1

Preparation for entrance into the clinical supervised practice experience. Review of medical record content; current practice protocols in clinical dietetics; practice case studies.

Note
Four day workshop.

Repeat for Credit
N

Requisites
Prerequisite: Admission into the coordinated program in dietetics; concurrent enrollment in FNDH 521.

Typically Offered
Spring

FNDH 520 - Applied Clinical Dietetics

Credits: 3

Application of clinical nutrition principles through case studies, independent research, discussion, groups, and oral presentations. Case studies will focus on medical nutrition therapy and education of persons throughout the life cycle and nutrition intervention for individuals with multiple disease states in various healthcare settings.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the coordinated program in dietetics.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

FNDH 521 - Clinical Dietetic Practicum

Credits: 8

Supervised clinical/community experience in the nutritional care of patients/clients. Practicum experiences are arranged with participating healthcare facilities.

Repeat for Credit
N

Requisites
Prerequisite: Must be taken concurrent with FNDH 520.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

FNDH 530 - Nutrition Education in Extension

Credits: 1

The process of and strategies for providing nutrition education outreach to diverse community audiences, including those with limited resources.

Repeat for Credit
N

Requisites
Prerequisite: Any college-level nutrition course and junior or senior standing.

Typically Offered
Spring

FNDH 535 - Energy Balance

Credits: 2

This course will cover metabolic principles as they relate to energy intake (diet) and expenditure (exercise). Specific topics will include: obesity, anorexia/bulimia, bioenergetics, substrate selection/regulation (especially exercise and diabetes), body composition; methodology to assess each; and metabolism related disease.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 400 or KIN 335 or concurrent enrollment in either.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

FNDH 540 - Nutrition Education and Program Planning

Credits: 2

Education strategies for communicating evidence-based health information and planning strategies for developing community programs.

Repeat for Credit
N

Requisites
Prerequisite: Junior Standing

Typically Offered
Fall, Spring

FNDH 542 - Management in Dietetics II

Credits: 2

Discussion of principles used to manage resources in dietetics practice. Topics include financial management, human resources, technology, benchmarking, and quality assurance.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 442

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

FNDH 543 - Management in Dietetics III

Credits: 2

Administration and leadership in dietetic practice. Discussion of current topics and their application to the various practice areas of dietetics.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 542

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

FNDH 551 - Evaluation of Athletic Injuries of the Extremities

Credits: 3

This course is designed to familiarize the athletic training student with the principles of orthopedic assessment and to apply these principles to specific regions of the body. Knowledge gained in this course may be applicable to other individuals interested in health related professions which require systematic examination of the body.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 220 with a C or better. Corequisite: C or better in KIN 360, OR BIOL 441 and 442, OR 5 hours of anatomy and physiology.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

FNDH 552 - Emergency Procedures and Evaluation of Core Athletic Injuries

Credits: 3

Familiarize the athletic training student with the procedures of emergency management of athletic injuries and to apply these procedures both on the field and off the field. Familiarized with the principles of orthopedic and emergency medical assessment and to apply these principles to the core of the body. Knowledge gained may be applicable to other individuals interested in health related professions which require systematic examination of the body in emergency settings.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 220 with a B or better and a C or better in KIN 360, BIOL 340 and BIOL 442, or 8 hours of Anatomy and Physiology transfer credit.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

FNDH 553 - Pharmacology in Athletic Training

Credits: 2

Study of medications commonly encountered in the practice of athletic training. Includes categories of drugs, generic and trade names of common drugs, the use, effects and precautions for common drugs and drug-interactions. Focuses on how various drugs affect the patient response to activity, exercise and other therapeutic interventions.

Repeat for Credit
N

Requisites
Prerequisite: C or better in KIN 360, BIOL 441 and BIOL 442 or 8 hours of Anatomy and Physiology transfer credit.

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

FNDH 554 - General Medical Conditions in the Athlete

Credits: 2

Recognition, evaluation, management, and prevention of the most common medical conditions that affect athletic participation. Emphasis placed on the appropriate history, physical exam, indications for referral, and treatment for each condition.

Repeat for Credit
N

Requisites
Prerequisite: C or better in KIN 360, BIOL 441 and BIOL 442, or 8 hours of Anatomy and Physiology transfer credit; FNDH 551 and FNDH 552.

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences

FNDH 555 - Therapeutic Modalities in Athletic Training

Credits: 3

The theory and application of the various energy systems used in the treatment of athletic injuries. Practical experiences will be emphasized.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 551, FNDH 220 with a B or better. Corequisite: FNDH 552.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

FNDH 556 - Rehabilitation and Conditioning for Athletic Injuries

Credits: 3

A study of applied rehabilitation and conditioning techniques used by athletic trainers.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 551.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

FNDH 557 - Administration of Athletic Training Programs

Credits: 3

A study of issues affecting athletic trainers in their roles as administrators in the areas of role delineation, budget designs, legal aspects of sport, facility design, and drug testing and drug education.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 556 and senior standing.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

FNDH 558 - Advanced Athletic Training Techniques

Credits: 3

This course will provide a deeper application of athletic training techniques in specific orthopedic related areas. Students will have a hands-on and lab component as it relates to casting, bracing, Kinesiotaping, and manual therapy techniques. Upon completion of this course, students will be eligible to complete the certification examinations to obtain credentialing as an ASOP Orthopedic Physician Extender.

Note
This course will be conducted as a hands-on lab and lecture. The primary focus is skill acquisition and application.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 551. Corequisite: FNDH 552.

Typically Offered
Spring

FNDH 561 - Management in Dietetics Practicum

Credits: 8

Supervised practice experience in the application of management principles in foodservice operations or other dietetics practice settings.

Repeat for Credit
Y

Requisites
Prerequisite: Admission to Coordinated Program; FNDH 560 or concurrent enrollment.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

FNDH 562 - Management in Dietetics Practicum Recitation

Credits: 1

Focused discussion of significant occurrences during the supervised practice experience and the application of management principles in foodservice operations or other dietetic practice settings. Behavior-based assessment and progression is utilized to encourage self-development and entry-level competence in dietetics practice.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the coordinated program in dietetics; concurrent enrollment in FNDH 561.

Typically Offered
Fall

FNDH 570 - Introduction to Research in Dietetics Practice

Credits: 1

Introduction to basic research design in dietetics with application of the research to evidenced-based practice using the Evidence Analysis Library of the Academy of Nutrition and Dietetics.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing or instructor permission.

Typically Offered
Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

FNDH 575 - Research in Health Sciences

Credits: 1

Provide initial instruction on how to locate, understand, and evaluate the research literature in the student's area of interest in health science. A range of health research methods will be covered, and studies about treatment effectiveness. Student learning outcomes will include various forms of communication.

Note
Required by all undergraduate FNDH students

Repeat for Credit
N

Requisites
Prerequisite: Junior Standing.

Typically Offered
Fall, Spring

FNDH 583 - Practicum I in Athletic Training

Credits: 1-4

A supervised, clinical experience at approved clinical settings. The athletic training student will apply principles taught in FNDH 220.

Note
Taken second year, first semester.

Repeat for Credit
N

Requisites
Prerequisite: Instructor approval.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

FNDH 584 - Practicum II in Athletic Training

Credits: 1-4

A supervised, clinical experience at approved clinical settings. The athletic training student will apply principles taught in the classroom and practiced in the lab throughout the curriculum program.

Note
Taken second year, second semester.

Repeat for Credit
N

Requisites
Prerequisite: Instructor approval.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

FNDH 585 - Practicum III in Athletic Training

Credits: 1-4

A supervised clinical experience at approved clinical settings. The athletic training student will apply principles taught in the classroom and practiced in the lab throughout the curriculum program.

Note
Taken third year, first semester.

Repeat for Credit
N

Requisites
Prerequisite: Instructor approval.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

FNDH 586 - Practicum IV in Athletic Training

Credits: 1-4

A supervised, clinical experience at approved clinical settings. The athletic training student will apply principles taught in the classroom and practiced in the lab throughout the curriculum program.

Note
Taken third year, second semester.

Repeat for Credit
N

Requisites
Prerequisite: Instructor approval.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

FNDH 587 - Practicum V in Athletic Training

Credits: 1-4

A supervised, clinical experience at approved clinical settings. The athletic training student will apply principles taught in the classroom and practiced in the lab throughout the curriculum program.

Note
Taken fourth year, first semester.

Repeat for Credit
N

Requisites
Prerequisite: Instructor approval.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

FNDH 588 - Practicum VI in Athletic Training

Credits: 1-4

A supervised, clinical experience at approved clinical settings. The athletic training student will apply principles taught in the classroom and practiced in the lab throughout the curriculum program.

Note
Taken fourth year, second semester.

Repeat for Credit
N

Requisites
Prerequisite: Instructor approval.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility

FNDH 589 - Professional Preparation for Athletic Training

Credits: 0-1

This course will provide a comprehensive review of athletic training knowledge in specific domain areas. Students will have a seminar component to review and apply knowledge across the 5 domain areas of athletic training. The domain areas include: injury/illness prevention and wellness protection; clinical evaluation and diagnosis; immediate and emergency care; treatment and rehabilitation; organizational and professional health and well-being.

Note
Upon completion of this course, students will be eligible to complete the Board of Certification examination to obtain the license of Certified Athletic Trainer.

Repeat for Credit
Y

Requisites
Prerequisite: Senior Standing

Typically Offered
Fall, Spring

FNDH 597 - Research Experience in Food, Nutrition, Dietetics and Health

Credits: 0-3

Exposure to and assisting with current research projects in Food, Nutrition, Dietetics and Health.

Note
Maximum of 3 credit hours applicable toward a degree. School consent.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FNDH 599 - Topics in Human Nutrition

Credits: 1-3

Topics in Human Nutrition

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing and consent of instructor.

Typically Offered
On sufficient demand

FNDH 600 - Public Health Nutrition

Credits: 3

Public health nutrition issues for various segments of the population; nutritional components of community assessment; program planning and evaluation; and policy issues pertaining to the nutritional status of the population.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 450 or FNDH 400 and junior standing.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Social Sciences

FNDH 620 - Nutrient Metabolism

Credits: 3

Basic concepts of the mechanisms of actions, interactions, and the processes of cellular assimilation and utilization of nutrients in humans. Emphasis on the coordinated control of nutrient utilization among the major organs.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 400; BIOL 441 and BIOL 442 or KIN 360; and BIOCH 265 or BIOCH 521, or CHM 550 with concurrent enrollment in BIOCH 521.

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

FNDH 631 - Clinical Nutrition I

Credits: 3

First course of a two semester study of the application of nutrition principles in disease; includes physiological basis of nutritional care, effects of disease on nutrient metabolism, medical nutrition therapy, in-class team diagnoses presentations, and nutrition counseling.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 450 and FNDH 400.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

FNDH 632 - Clinical Nutrition II

Credits: 3

Continuation of the application of nutrition principles in disease; includes physiological and biochemical basis of nutritional care, effects of disease on nutrient metabolism, medical nutrition therapy for critical care needs, standardized language in advanced professional nutrition diagnoses and care of selected diseases.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 620 and FNDH 631.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

FNDH 635 - Sports Nutrition

Credits: 3

The interrelationships among diet, nutrition, and performance. Topics covered include nutrient metabolism during exercise training and performance, nutrition and training periodization, demands of sport training, supplements and ergogenic aids, and nutrients of concern for athletes. There is a focus on athletes/sport, but topics also include normal exercising individuals who have goals related to weight loss, weight gain, or performance and competition.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 400 OR KIN 335 with a grade of C or higher; and KIN 360 OR BIOL 441 and 442

Typically Offered
Fall

FNDH 643 - Food Writing

Credits: 3

Understanding and appreciating how to communicate effectively in writing about food and food-related topics. Hands-on experience in research and writing for various audiences and types of publications.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 200.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Historical Perspectives

FNDH 645 - Capstone in Dietetics

Credits: 1

Culminating experience for dietetic students with a focus on professional engagement, governance of dietetics profession, and professionalism including self-advocacy, civil debate, and advocacy for nutrition and dietetics policies.

Note
Restricted to dietetics majors accepted into the DPD or instructor permission

Repeat for Credit
N

Requisites
Prerequisite: Accepted into DPD or instructor permission

Typically Offered
Spring

FNDH 650 - Practicum in Food, Nutrition, Dietetics and Health

Credits: 1-6

Supervised professional field experience.

Note
School consent

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FNDH 653 - Pharmacology

Credits: 3

This course is designed to bring together the body of knowledge regarding the study of medications commonly encountered in the profession of athletic training. Includes categories of drugs, generic and trade names of common drugs, the use, effects and precautions for common drugs and drug-interactions. Focuses on how various drugs affect the patient response to activity, exercise and other therapeutic interventions.

Note
100% Lecture

Repeat for Credit
N

Requisites
Admission into the ATh Tr Program or Instructors Approval

Typically Offered
Fall

FNDH 654 - Pathophysiology and Clinical Evaluation

Credits: 3

Designed to bring together the body of knowledge regarding the manifestation, diagnosis, and treatment of human illness, disease, and injury and the resulting physiological responses that occur during the lifespan. Content will build on anatomy, physiology and chemistry content from previous courses.

Repeat for Credit
N

Requisites
Prerequisite: Anatomy & Physiology (5 credit hours completed) or equivalent; CHM 110/CHM 111 or CHM 210; Junior standing or Instructor Approval.

Typically Offered
Fall, Spring, Summer

FNDH 660 - Nutrition and Food Behavior

Credits: 3

Focus on the physiological, environmental, cultural, and economic factors that influence the use of food. Identification of appropriate methodology to study these factors as well as programs to modify food behavior.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110 or SOCIO 211 or ANTH 200; and FNDH 400.

Typically Offered
Fall-Even Years

FNDH 700 - Global Health and Nutrition

Credits: 3

This course is designed to examine major global nutrition and health challenges, programs and policies. Students will become acquainted with the epidemiology of nutritional disease in developed and developing countries. Programs and resources available to combat malnutrition will be evaluated. It will help students analyze current and emerging global health priorities, including emerging infectious diseases, newer nutritional problems, health inequity, health systems reforms, and major global initiatives for disease prevention and health promotion. Designed for advanced undergraduate and graduate students in health related field, including biological or social sciences.

Repeat for Credit
N

Requisites
Prerequisite: Graduate level classification, or undergraduate student with instructor permission.

Typically Offered
Spring

FNDH 702 - Nutrition in Developing Countries

Credits: 3

Nutritional problems in developing countries, including an analysis of factors which contribute to malnutrition, effects of undernutrition, methods for assessing nutritional status, and interventions to combat nutrition problems.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 510.

Typically Offered
Fall

FNDH 703 - Food Across Cultures and Countries

Credits: 3

Exploration of food across cultures in the U.S. and the world with emphasis on the affects of geographic, social, economic, religious, and other issues.

Note
Lecture.

Repeat for Credit
N

Requisites
Recommended prerequisite: Junior, Senior, or Graduate Standing.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives

FNDH 706 - Nutritional Immunology

Credits: 3

Principles and issues related to nutrition and immunology. Impact of nutrients and nutritional status on immune responses. Impact of disease states on nutritional status.

Repeat for Credit
N

Typically Offered
Fall-Even Years

FNDH 709 - Clinical Applications of Human Anatomy

Credits: 3

To bring together the body of knowledge from human anatomy and biomechanics to the clinical application, palpations, and testing of human anatomy. Provides the opportunity to apply knowledge of anatomy to a structural

level allowing for palpating, locating, and incorporating the findings into their diagnosis.

Repeat for Credit
N

Requisites
Pre-Requisite: Admission to the MS in Athletic Training; 8 hours of Anatomy and Physiology, KIN 360 OR BIOL 441 AND BIOL 442.

Typically Offered
Summer

FNDH 710 - Foundations of Patient Management

Credits: 2

Introduction to the role of the athletic trainer in the healthcare system and contemporary healthcare competencies that support expected standards of care.

Repeat for Credit
N

Typically Offered
Summer

FNDH 718 - Physical Health and Aging

Credits: 3

Focus is on the physiological theories of aging, the relationship between normal aging processes, and the major chronic and acute diseases of the elderly, and community health promotion/maintenance programs for older adults.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198 and senior standing.

Typically Offered
Spring-Odd Years

FNDH 720 - Administration of Health Care Organizations

Credits: 3

Comprehensive review of current health care institutions and their response to the economic, social/ethical, political/legal, technological, and ecological environments.

Note
Three hours lecture.

Repeat for Credit
N

Typically Offered
Spring

Cross-listed
MPH 720

FNDH 726 - Nutrition and Wellness

Credits: 3

Epidemiology and pathophysiology of chronic disease related to nutrition (e.g., obesity, cardiovascular disease, osteoporosis, hypertension, diabetes, cancer). Nutritional risk and protective factors will be examined as they relate to public health and individual nutrition.

Repeat for Credit
N

Requisites
Prerequisite: Course in basic nutrition and statistics at the undergraduate level.

Typically Offered
Spring

FNDH 729 - Nutritional Oncology

Credits: 3

Students will gain understanding of basic cancer biology and methodology used to study nutrition and cancer relationships. Using current research as a basis, the role of nutrition in specific cancers will be explored. Students will learn about sources of information for cancer prevention programs, and how to apply this information to clinical patient management.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the Masters in Dietetics

program through the Great Plains Interactive Distance Education Alliance (GPIDEA).

Typically Offered
Spring-Even Years

FNDH 731 - Advanced Diabetes Management

Credits: 3

The course is designed for students to gain a comprehensive understanding of the classification, presentation, and diagnosis of diabetes and pre-diabetes. The course will explore etiology, pathophysiology, diagnostic tests, clinical management, chronic complications and co-morbidities, and emerging technologies.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 631 or RDN credential or approval of instructor.

Typically Offered
Summer

FNDH 735 - Advanced Energy Balance

Credits: 3

Lifestyle, metabolic, and endocrine factors affecting energy balance and the development of obesity. Research methods to assess and apply energy balance data will also be discussed.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 620 or FNDH 635.

Typically Offered
Spring-Even Years

FNDH 750 - Fundamentals of Public Health and Food Safety

Credits: 3

Organization and function of food inspection services; principles of disease transmission; diseases transmitted to humans through the food chain.

Repeat for Credit
N

Requisites
Recommended Prerequisite: One class in the microbiology field (BIOL 255 OR FDSCI 600) or instructor consent.

Typically Offered
Fall

FNDH 752 - Emergency Management in Athletic Training

Credits: 3

This course is designed to be a fast paced review of introduction to athletic training and care and prevention of athletic training injuries. This course will also bring together the body of knowledge regarding emergency management while applying it to the profession of athletic training.

Note
100% Lecture

Repeat for Credit
N

Requisites
Prerequisite: Admission into the MS Athletic Training Program or Instructors approval

Typically Offered
Summer

FNDH 755 - Clinical Applications of Neurological Function

Credits: 3

Scientific approach to advance knowledge related to the assessment of structured movement of the human body in relationship to neurological function and pathologies. Cognitive (knowledge), psychomotor (hands-on) learning, affective, and clinical/quantitative skills with a heavy emphasis on neuroanatomy to stress clinical application.

Repeat for Credit
N

Requisites

Prerequisite: Admission into the MS Athletic Training Program or Instructors approval

Typically Offered
Summer

FNDH 760 - Applied Dietetics

Credits: 1-6

Application of dietetics/nutrition principles through workshops, case studies, independent research, discussion, and simulation. Behavior-based assessment and progression is utilized to encourage self-development and entry-level competence in dietetics practice. A variety of practice areas will be covered.

Repeat for Credit
Y

Requisites
Prerequisite: Enrollment restricted to those in Dietetics Internship program; must be taken concurrently with FNDH 860 Dietetics Practicum

Typically Offered
Fall, Spring, Summer

FNDH 761 - Applied Management in Dietetics

Credits: 3

Application of management principles in foodservice operations or other dietetic practice settings through case studies, independent research, discussion, and projects. Behavior-based assessment and progression is utilized to encourage self-development and entry-level competence in dietetics practice. Includes focused discussion of significant occurrences during the Dietetic Internship experience.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment restricted to those in Dietetics Internship program. Corequisite: FNDH 860 Dietetics Practicum

Typically Offered
Fall

FNDH 762 - Applied Clinical Dietetics

Credits: 2

Application will focus on medical nutrition therapy and education of persons throughout the life cycle and nutrition intervention for individuals with multiple disease states in various healthcare settings. Behavior-based assessment and progression is utilized to encourage self-development and entry-level competence in dietetics practice. Includes focused discussion of significant occurrences during the Dietetic Internship experience.

Repeat for Credit
N

Requisites
Prerequisite: Enrollment restricted to those in Dietetics Internship program. Corequisite: FNDH 860 Dietetics Practicum

Typically Offered
Spring

FNDH 775 - Research in Health Sciences

Credits: 3

Students in this graduate course will review the role and importance of the scientific method in health professions, especially those with clinical application. The rationale and role of evidence-based practice and research will be reviewed, and research language and core concepts will be discussed. Students will demonstrate their ability to ask research questions and translate questions into search strategies for finding evidence. The purpose of this course is to provide students the opportunity to demonstrate their capacity to locate, understand, and evaluate the research literature in the student's area of interest. The expectation is to demonstrate understanding of research methodology the ability to critically evaluate research literature. Students will demonstrate knowledge of quantitative and qualitative research methods, types of data, how data are described and how biostatistics are used to provide meaning to research data. A range of health research methods will be covered, and studies about treatment effectiveness (clinical trials and systematic reviews), as well as qualitative approaches will be discussed.

Repeat for Credit
N

Typically Offered
Spring

FNDH 780 - Problems in Food, Nutrition, Dietetics and Health

Credits: 1-6

Supervised individual project to study current issues.

Note
School consent

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FNDH 782 - Topics in Food, Nutrition, Dietetics and Health

Credits: 1-6

Supervised individual project to study current issues.

Note
School consent

Repeat for Credit
Y

Typically Offered
On sufficient demand

FNDH 799 - Foundations of Therapeutic Interventions

Credits: 3

Provide students with the foundational knowledge of how to integrate the basic sciences, exercise physiology, biomechanical, and injury prevention strategies into a well-planned and evidence based patient care plan. Focused theory and application of therapeutic modalities, applied rehabilitation, and conditioning techniques used in the profession of athletic training.

Repeat for Credit
N

Typically Offered
Summer

FNDH 800 - Nutrition Education and Communication

Credits: 3

Apply principles of communication and learning technologies to nutrition education research and practice.

Repeat for Credit
Y

Requisites
Prerequisite: FNDH 510, FNDH 515, and a statistics course with a grade of C or better

Typically Offered
Spring

FNDH 802 - Clinical Therapeutic Interventions I- Functional Therapeutic Interventions

Credits: 3

Application of treatment strategies for return to activity, strength and conditioning techniques and prescription, movement strategy and preventative care and ergonomic assessment. Use of biometrics, and physiological data for intervention prescription. This course is a study of applied rehabilitation and conditioning techniques used in the profession of athletic training.

Note
50% Lec, 50% Lab

Repeat for Credit
N

Requisites
Prerequisite: Admission into the AthTr Program or Instructors Approval

Typically Offered
Fall

FNDH 803 - Clinical Therapeutic Interventions II- Extremity Interventions

Credits: 3

Theory and application of the various treatment strategies used in the treatment of the upper extremity and lower

extremity.

Note
50% Lec, 50% Lab

Repeat for Credit
N

Requisites
Prerequisite: Admission into the AthTr Program or Instructors Approval

Typically Offered
Spring

FNDH 804 - Clinical Therapeutic Interventions III- Pharmacology, Nutrition, and Behavior Modification

Credits: 2

Inform students of the basic principles pertaining to and the reasoning behind the inclusion of pharmacological agents and nutrition as part of a patient's holistic plan of care. Emphasis placed on the athletic trainer's role as educator and part of an interdisciplinary team to ensure behavior modification and compliance.

Repeat for Credit
N

Typically Offered
Spring

FNDH 810 - Advanced Macronutrient Metabolism

Credits: 5

Dietary, metabolic, and endocrine factors regulating food intake and selection, and the absorption, function, metabolism, and interrelationships of macronutrients under varying nutritional conditions, with emphasis on recent advances in macronutrient nutrition.

Repeat for Credit
Y

Requisites
Prerequisite: BIOCH 521 and FNDH 620.

Typically Offered
Fall-Even Years

FNDH 812 - Advanced Micronutrient Metabolism

Credits: 3

Nutritional roles and metabolism of vitamins and minerals. Functions, biological availability, hormonal regulation, requirements, deficiency and toxicity signs, and interrelations with other nutrients.

Repeat for Credit
Y

Requisites
Prerequisite: FNDH 810.

Typically Offered
Spring-Odd Years

FNDH 815 - Molecular Basis of Nutrient Function

Credits: 3

The course is designed to explore the role that certain nutrients have at the gene and molecular levels in terms of their mechanism of action. The physiological consequences of nutrient gene-interaction from a tissue, organ and organism level, as well as the subcellular levels, are to be considered.

Repeat for Credit
Y

Requisites
Prerequisite: FNDH 620 and BIOL 450.

Typically Offered
Spring

FNDH 820 - Functional Foods for Chronic Disease Prevention

Credits: 3

Integrate and evaluate the regulatory principles, food science, nutrient science and nutritional metabolism for the development of functional foods, nutraceuticals, and dietary supplements for chronic disease prevention.

Repeat for Credit
Y

Requisites
Prerequisite: FNDH 400, FNDH 313, BIOCH 521.

Typically Offered
Spring-Even Years

FNDH 821 - Clinical Evaluation I-Core Evaluation

Credits: 3

Application of clinical and functional injury evaluation procedures and techniques for the trunk, torso, abdomen, spine, and kinetic chain.

Note
50% Lec, 50% Lab

Repeat for Credit
N

Requisites
Prerequisite: Admission into the AthTr Program or Instructors Approval

Typically Offered
Fall

FNDH 822 - Clinical Evaluation II-Extremities

Credits: 3

Application of contemporary principles and practices of patient examination for formulation of a diagnosis and plan of care for patients with health conditions of the extremities that are commonly seen in athletic training practice.

Note
50% Lec, 50% Lab

Repeat for Credit
N

Requisites
Prerequisite: Admission into the AthTr Program or Instructors Approval

Typically Offered
Spring

FNDH 823 - Clinical Evaluation III- General Medical Conditions

Credits: 3

Meet outcomes and guidelines related to prevention, evaluation and management of medical conditions/disabilities. Obtain knowledge, skill and clinical decision-making to accurately assess and recognize general medical conditions, make appropriate referrals, and work as part of a health care team to implement plans for safe participation in physical activity and sport.

Repeat for Credit
N

Typically Offered
Summer

FNDH 838 - Advanced Clinical Dietetics

Credits: 3

An in-depth study of the pathophysiology of nutritional disease. Those functional disorders which result in nutritional disease or those nutritional diseases which affect physiological function will be explored. The emphasis will be in the following areas: nutritional assessment, endocrinology, metabolism, gastroenterology, and organ failure.

Note
Only available to distance students seeking a Masters in Dietetics through the Great Plains Program.

Repeat for Credit
Y

Requisites
Prerequisite: FNDH 630 or equivalent.

Typically Offered
Spring

FNDH 839 - Clinical Nutrition Support

Credits: 3

Specialized nutrition assessment and support. Review of energy expenditure and substrate utilization in specific disease states. Current methods for the initiation and management of enteral and parenteral nutrition therapy including access, metabolic and mechanical complications. Evaluation of nutrition support methodology in selected disease states.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the Masters in Dietetics program through the Great Plains Interactive Distance Education Alliance (GPIDEA).

Typically Offered
Spring

FNDH 840 - Public Health Practice

Credits: 3-6

Supervised field experience in an international, state, local, or district health agency or other appropriate health agency.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

Cross-listed
MPH 840

FNDH 842 - Advanced Nutrition: Nutrigenomics, Nutrigenetics, and Advanced Lipid Metabolism

Credits: 3

Fundamentals as how the macronutrients; fat, carbohydrates and protein act to regulate gene expression(nutrigenetics) and how an individuals genotype may alter an individuals macronutrient requirements (nutrigenetics) and influence phenotype with respect to chronic disease and human health.

Note
Only available to distance students seeking a Masters in Dietetics through the Great Plains Program.

Repeat for Credit
Y

Requisites
Prerequisite: FNDH 620 or consent of instructor.

Typically Offered
Fall, Spring

FNDH 844 - Nutritional Epidemiology

Credits: 3

Methods and issues involved in understanding and conducting studies on the relationship between human diet and disease.

Repeat for Credit
Y

Requisites
Prerequisite: FNDH 400 and STAT 702 or STAT 703.

Typically Offered
Spring-Even Years

FNDH 857 - Administration in Athletic Training

Credits: 3

This course is designed to bring together the body of knowledge regarding organization and administration while applying it to the profession of athletic training.

Note
100% Lecture

Repeat for Credit
N

Requisites
Prerequisite: Admission into the AthTr Program or Instructors Approval

Typically Offered
Summer

FNDH 858 - Durable Medical Equipment and Casting

Credits: 2

Application of contemporary principles and practices of how to select, fabricate, and/or customize prophylactic, assistive, and restrictive devices, materials, and techniques for incorporation into the plan of care, including the Durable medical equipment, Orthotic devices, Taping,

splinting, protective padding, and casting.

Note
50% Lec, 50% Lab

Repeat for Credit
N

Requisites
Prerequisite: Admission into the AthTr Program or Instructor Approval

Typically Offered
Fall

FNDH 859 - Nutrition: A Focus on Life Stages

Credits: 3

Nutritional needs throughout the life span including pregnancy, lactation, growth and aging. Approaches to nutrition education for different ages.

Note
Only available to distance students seeking a Masters in Dietetics through the Great Plains Program.

Repeat for Credit
Y

Requisites
Prerequisite: 3 hours undergraduate nutrition and 6 hours undergraduate natural sciences.

Typically Offered
Summer

FNDH 860 - Dietetics Practicum

Credits: 1-6

Application of dietetics/nutrition principles in a supervised practice experience within an approved setting. Practicum experiences are arranged with healthcare facilities, foodservice operations, private practice, community organizations, and other related partners.

Repeat for Credit
Y

Requisites
Prerequisite: Enrollment restricted to those in Dietetics Internship program.

Typically Offered
Fall, Spring, Summer

FNDH 862 - Maternal and Child Nutrition

Credits: 3

A critical examination of behavioral, physiological, and public health issues impacting dietary and nutritional factors that support normal growth and development. The course content focuses on the early stages of the life cycle: gestation, lactation, infancy, preschool, school age and adolescence. Topics include the fetal programming hypothesis, growth and nutritional requirements, breast and formula feeding of infants, infant weaning, and eating behaviors that lead to normal growth, growth faltering, and pediatric obesity.

Note
Only available to distance students seeking a Masters in Dietetics through the Great Plains Program.

Repeat for Credit
Y

Requisites
Prerequisite: FNDH 510 or equivalent.

Typically Offered
Summer

FNDH 875 - Pediatric Clinical Nutrition

Credits: 3

The physiological, biochemical and nutritional aspects of disease processes relevant to infants and children up to 18 years of age. Medical nutrition therapy for a variety of medical conditions found in this Population will be discussed including inborn errors of metabolism, food hypersensitivity, obesity, and diseases of the major organ systems.

Note
Only available to distance students seeking a Masters in Dietetics through the Great Plains Program.

Repeat for Credit
Y

Requisites
Prerequisite: FNDH 631 Clinical Nutrition I and FNDH

632 Clinical Nutrition II or equivalent.

Typically Offered
Fall

FNDH 880 - Professional Communication in FNDH

Credits: 1

Develop and deliver oral presentations, write for the profession, and communicate in a professional manner.

Repeat for Credit
Y

Typically Offered
Fall, Spring

FNDH 883 - Athletic Training Practicum I

Credits: 1

Application of classroom principles in a supervised, clinical experience within an approved clinical setting.

Note
100% Practicum.

Repeat for Credit
N

Requisites
Prerequisite: Admission into the Athletic Training Program or Instructors Approval

Typically Offered
Fall

FNDH 884 - Athletic Training Practicum II

Credits: 1

Application of classroom principles in a supervised, clinical experience within an approved clinical setting.

Note
100% Practicum

Repeat for Credit
N

Requisites
Prerequisite: Admission into the Athletic Training Program or Instructor Approval

Typically Offered
Spring

FNDH 885 - Athletic Training Practicum III

Credits: 1

Application of classroom principles in a supervised, clinical experience within an approved clinical setting.

Note
100% Practicum

Repeat for Credit
N

Requisites
Prerequisite: Admission into the Athletic Training Program or Instructor Approval

Typically Offered
Summer

FNDH 886 - Athletic Training Practicum IV

Credits: 1

Application of classroom principles in a supervised, clinical experience within an approved clinical setting.

Note
100% Practicum

Repeat for Credit
N

Requisites
Prerequisite: Admission into the Athletic Training Program or Instructor Approval

Typically Offered
Summer

FNDH 887 - Athletic Training Practicum V

Credits: 4

Application of classroom principles in a supervised, clinical experience within an approved clinical setting.

Note
100% Practicum

Repeat for Credit
N

Requisites
Prerequisite: Admission into the Athletic Training Program or Instructor Approval

Typically Offered
Fall

FNDH 888 - Athletic Training Practicum VI

Credits: 4

Application of classroom principles in a supervised, clinical experience within an approved clinical setting.

Note
100% Practicum

Repeat for Credit
N

Requisites
Prerequisite: Admission into the Athletic Training Program or Instructor Approval

Typically Offered
Spring

FNDH 889 - Research Experience in Athletic Training

Credits: 1

Evidence based research application for Athletic Training. To inform contemporary principles and clinical athletic training practices in a manner that uses evidence to inform clinical decisions.

Repeat for Credit
Y

Typically Offered
Fall

FNDH 891 - Environmental Scanning and Analysis of Current Issues in Dietetics

Credits: 3

Discussion of changes in the economic, social, ethical, political, legal, technological, and ecological environments in which dietitians practice. Implications of these changes for education, practice and research within the field with particular emphasis on the healthcare industry.

Repeat for Credit
Y

Typically Offered
Fall

FNDH 892 - Population Health in Sports Medicine

Credits: 3

An introduction for athletic trainers and other healthcare providers, to the benefits of using a population-based approach to injury and illness prevention as it relates to a physically active/athletic population and to explore opportunities for partnering with public health professionals on these initiatives.

Note
100% Lec

Repeat for Credit
N

Requisites
Prerequisite: Admission into the Athletic Training Program or Instructor Approval

Typically Offered
Fall

FNDH 896 - Financial Management and Cost Control in Dietetics

Credits: 3

This course provides an overview of the fundamental knowledge of financial management, managerial, accounting, and operational cost controls for dietetics professionals who work predominately in not-for-profit organizations. Topics include a review of managerial accounting concepts for not-for-profit organizations, value and risk analyses, budgeting, asset management franchising and management contractgs, cost-volume-profit analyses, and operational applications for financial performance.

Repeat for Credit
N

Requisites
Prerequisite: A basic financial or managerial accounting course

Typically Offered
Summer

FNDH 897 - Applications in Food, Nutrition, Dietetics and Health

Credits: 1-3

Independent study under supervision of graduate faculty member. Contact hours will meet Board of Regents guidelines for credit elected (1-3)

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FNDH 898 - Master's Report

Credits: 0-18

Survey in depth of the literature.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FNDH 899 - Master's Thesis

Credits: 1-8

Research in area of specialization.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FNDH 911 - Advanced Nutrition Topics: Contemporary Issues

Credits: 1-3

Contemporary concerns in health and disease from an advanced nutrition perspective.

Repeat for Credit
Y

Requisites
Prerequisite: FNDH 810 or instructor consent

Typically Offered
On sufficient demand

FNDH 913 - Eating Behavior

Credits: 2

Study of the theoretical and practical aspects of food choice. Impacts of social, economic, and political policies on food choice and impacts to global issues by individual food choices.

Repeat for Credit
N

Requisites
Prerequisite: One graduate course in nutrition, food science or psychology

Typically Offered
Spring

FNDH 980 - Graduate Seminar in Food, Nutrition, Dietetics and Health

Credits: 1

Advance the oral presentation and professional communication skills of Food, Nutrition, Dietetics and Health graduate students.

Repeat for Credit
Y

Requisites
Prerequisite: FNDH 880 Recommended Foundation: Successful completion of preliminary exam

Typically Offered
Spring

FNDH 995 - Grantsmanship and Publication

Credits: 3

Grant writing, identifying external funding, managing grants, preparing manuscripts for peer-reviewed publication, and preparing papers and poster for presentation at professional meetings.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 720 or a graduate level research methods course.

Typically Offered
Fall-Even Years

FNDH 999 - Doctoral Research

Credits: 1-18

Doctoral Research

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FOR 520 - Urban Forest Administration

Credits: 3

This course is a study of urban and community forest administration. It considers the urban forest ecosystem involving an in-depth look at ownerships. composition, distribution, benefits, values, and administrative operation. The policies and politics of successful administration will be emphasized.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: FOR 510.

Typically Offered
Spring

FOR 741 - Forestry Problems

Credits: 1-3

Work is offered in various fields of forestry.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FREN 001 - Orientation for Summer School Program

Credits: 0

Orientation for Summer School Program

Repeat for Credit
N

Typically Offered
Spring

FREN 101 - French I (Elementary French I)

Credits: 4

Develops basic language skills and cultural awareness to function in everyday situations in French-speaking communities, for students with little to no prior French experience. Conducted in French with practice in speaking, listening, reading, and writing.

Note
For students with no French experience, with a year of high school French, or with a semester of college French that was taken more than two years ago.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

FREN 102 - French II

Credits: 4

Continuation of French I, completion of basic presentation of the structure of French. Emphasis on spoken language.

Repeat for Credit
N

Requisites
Recommended Prerequisite: FREN 101 or equivalent.

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

FREN 103 - Accelerated Beginning French

Credits: 5

Course covering material from French I and II in one semester. Listening, speaking, reading, and writing. Includes one hour lab per week in language laboratory or other language opportunities outside of class time.

Note
For students with one or two years of previous French instruction or advanced learners of other languages who desire a faster pace.

Repeat for Credit
N

Typically Offered
Other

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

FREN 201 - French III

Credits: 3

Continuation of French II, presentation of more advanced elements of the French language. Emphasis on spoken language.

Repeat for Credit
N

Requisites
Recommended Prerequisite: FREN 102 or equivalent.

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

FREN 301 - French IV

Credits: 3

Continuation of French III, presentation of more advanced elements of the French language. Emphasis on spoken language.

Repeat for Credit
N

Requisites
Recommended Prerequisite: FREN 201 or equivalent.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

FREN 398 - Intermediate Studies in French

Credits: 1-6

Offered only to participants in study abroad programs.

Note
Prior consultation for approval is expected.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

FREN 501 - Readings in French

Credits: 3

Practice in reading a variety of literary, journalistic, and specialized texts.

Repeat for Credit
N

Requisites
Recommended Prerequisite: FREN 301 or equivalent.

Typically Offered
Fall or Spring

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

FREN 503 - French Composition and Grammar

Credits: 3

Review in depth of the structure of the language. Intensive practice in written and conversational French.

Repeat for Credit
N

Requisites
Prerequisite: FREN 213 or equivalent.

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

FREN 512 - French/Francophone Cinema

Credits: 3

The course consists of readings, written assignments, viewing, and discussion of French or Francophone films.

Note
For French credit, must be taken in French.

Repeat for Credit
Y

Requisites
Prerequisite: FREN 301 or equivalent.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

FREN 514 - Contemporary France

Credits: 3

Introduction to French culture with special emphasis on social and historical developments since World War II.

Repeat for Credit
N

Requisites
Prerequisite: FREN 213 or equivalent.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

FREN 515 - History of French Culture

Credits: 3

A survey of French culture from the Middle Ages to the present, including but not limited to, developments in art and architecture, music, and literature.

Repeat for Credit
N

Requisites
Prerequisite: FREN 213 or equivalent.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

FREN 517 - French for the Professions

Credits: 3

Development of French language skills useful in diverse professional situations including specialized terminology, conversation and discussion, and translation. May include agriculture, tourism, fashion, international relations, and business.

Repeat for Credit
N

Requisites
Recommended Prerequisite: FREN 301 or equivalent.

Typically Offered
Fall or Spring

K-State 8
Global Issues and Perspectives
Historical Perspectives

FREN 518 - French Conversation

Credits: 3

Practice in spoken French, with emphasis on idiomatic expression. Course not open to students whose primary language is French and whose competence has been demonstrated in the language at this level.

Repeat for Credit
N

Requisites
Prerequisite: FREN 213 or equivalent.

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

FREN 519 - Special Studies in French

Credits: 1-18

Special Studies in French

Repeat for Credit
Y

Requisites
Prerequisite: FREN 213 or equivalent and consent of department head and instructor.

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

FREN 520 - Introduction to French Literature (19th Century to the Present)

Credits: 3

The reading and discussion of major works of French literature from the early nineteenth century to the present.

Repeat for Credit
N

Requisites
Prerequisite: FREN 516 or equivalent.

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Historical Perspectives

FREN 530 - Topics in French/Francophone Literature and Culture

Credits: 3

Provides the students the opportunity to investigate in detail a particular theme or genre in French literature or culture.

Repeat for Credit
Y

Requisites
Prerequisite: At least one course taught in French at the 500 level.

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Historical Perspectives

FREN 580 - Discovering French Linguistics

Credits: 3

Introduction to the fundamentals of linguistic analysis. Topics may include sound system, word and sentence formation, semantic and pragmatic meaning, application of linguistics to language acquisition theory and to pedagogy.

Repeat for Credit
N

Requisites
Recommended prerequisite: FREN 301 or equivalent.

Typically Offered
Fall or Spring

FREN 709 - Medieval French Literature

Credits: 3

An introduction to literary forms, style, and the thought from the eleventh century to the fifteenth century in France. Readings in modern French in *Chanson de Roland, Chretien de Troyes, Roman de la Rose*, etc.

Repeat for Credit
N

Requisites
Prerequisite: FREN 520 or FREN 521 and one other 500 level course, or consent of instructor.

Typically Offered
Other

FREN 710 - Sixteenth-Century French Literature

Credits: 3

Reading and discussion of selected prose and poetry of the French Renaissance.

Repeat for Credit
N

Requisites
Prerequisite: FREN 520 or FREN 521 and one other 500 level course, or consent of instructor.

Typically Offered
Fall

FREN 711 - Seventeenth-Century French Literature

Credits: 3

Various literary forms of the French Baroque and Classical period. Reading of representative texts by Corneille, Pascal, Moliere, Racine, La Fontaine, and others.

Repeat for Credit
N

Requisites
Prerequisite: Two 500 level courses, including FREN 520 or FREN 521 or with the consent of the instructor.

Typically Offered
Fall

FREN 713 - Eighteenth-Century French Literature

Credits: 3

Critical study of the literature of the Enlightenment.

Repeat for Credit
N

Requisites
Prerequisite: FREN 520 or FREN 521 and one other 500

level course, or consent of instructor.

Typically Offered
Other

FREN 715 - 19th Century French Literature

Credits: 3

Topics in French literature of 1800-1899 including developments in poetry, prose, and theater.

Repeat for Credit
N

Requisites
Recommended Prerequisite: One French course at the 500-level

Typically Offered
Fall or Spring

FREN 716 - Topics in Contemporary French Literature

Credits: 3

The study of major themes and trends in the novel, drama, and poetry since 1900 as reflected by major authors as Proust, Camus, Sarraute, and others. This is a topics course repeatable with a different topic.

Note
This is a topics course repeatable with a different topic.

Repeat for Credit
Y

Requisites
Prerequisite: Two 500-level courses, including FREN 520 or FREN 521 or with consent of the instructor.

Typically Offered
Fall

FREN 719 - Advanced Spoken and Written French

Credits: 3

An advanced, intensive study of French prose style. Introduction to the techniques of translation from English to French. Intensive practice in oral style and diction.

Repeat for Credit
N

Requisites
Prerequisite: FREN 520 or FREN 521 and one other 500 level course, or consent of instructor.

Typically Offered
Fall

FREN 720 - Seminar in French Literature and Culture

Credits: 3

A seminar with various topics centered on literature and culture.

Repeat for Credit
Y

Requisites
Prerequisite: FREN 520 or FREN 521 or with the consent of the instructor.

Typically Offered
Fall, Spring

FREN 721 - Francophone Literature and Culture

Credits: 3

The development of French colonial and postcolonial literature and culture with an emphasis on the twentieth and twenty-first centuries. Regional focus may vary from Quebecois, Caribbean, Sub-Saharan or North African literature and culture.

Repeat for Credit
N

Requisites
Prerequisite: FREN 520 or FREN 521 and one other course at a 500 level.

Typically Offered
Fall, Spring

FREN 731 - Advanced French for Professions

Credits: 3

Advanced language necessary for adequate oral and written expression in international business and diplomatic situations, including specialized terminology, conversation and discussion, and translation.

Repeat for Credit
N

Requisites
Recommended prerequisite: One FREN course at the 500-level

Typically Offered
Fall or Spring

FREN 743 - French Second Language Acquisition Culture and Literature

Credits: 3

Analysis and interpretation of cultural resources and texts from French-speaking countries, with emphasis on the development of interpretive skills and materials, and their application to the French curriculum at all levels.

Repeat for Credit
N

Requisites
Recommended Foundation Course: One French course at the 500-level

Typically Offered
Fall or Spring

FREN 771 - Topics in French Translation

Credits: 3

Analysis and practice in bi-directional translation [French-English-French] of a variety of texts from a number of genres, including literary texts. Discussion of professional opportunities for translators and interpreters. Development of personal portfolio.

Repeat for Credit
Y

Requisites
Recommended prerequisite: One French course at the 500-level

Typically Offered
Fall or Spring

FREN 780 - Topics in French Linguistics

Credits: 3

Advanced topics in French linguistics. These may include introduction to the social history and internal structure of the French language, advanced phonetics, advanced grammar (word and sentence formation, semantic and pragmatic meaning), application of linguistics to language acquisition theory and to pedagogy.

Repeat for Credit
Y

Requisites
Recommended prerequisite: One French course at the 500-level

Typically Offered
Fall or Spring

FREN 799 - Problems in Modern Languages

Credits: 1-18

Problems in Modern Languages

Repeat for Credit
Y

Requisites
Prerequisite: FREN 520 or FREN 521 and one other 500 level course, or consent of instructor.

Typically Offered
Other

FREN 898 - Master's Report

Credits: 1-2

A written report of either research or problem work on a topic in the major field.

Note
Consult of major professor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

FREN 899 - Research in Modern Languages

Credits: 1-18

Research in Modern Languages

Repeat for Credit
Y

Typically Offered
Other

GEN 200 - Undergraduate Education Abroad

Credits: 0-18

"Education abroad" is **a chance to pursue your college studies in a foreign country**. Students attend lectures or carry out research at a foreign university or through K-State's education-abroad program.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GENAG 000 - Agriculture Scholars Program

Credits: 0

For all undergraduate students in the College of Agriculture Scholars Program. Students should enroll every semester while active in the program.

Repeat for Credit
Y

Requisites
Prerequisite: Acceptance into the College of Agriculture Scholars Program.

Typically Offered
Fall, Spring

GENAG 020 - University Honors Program

Credits: 0

All students participating in the University Honors Program and who are enrolled in the College of Agriculture must enroll each semester.

Repeat for Credit
Y

Requisites
Prerequisite: Acceptance into the University Honors Program.

Typically Offered
Fall, Spring

GENAG 101 - Ag Orientation

Credits: 1

Objectives, organization, and procedures of the College of Agriculture and the university are studied. Historical developments and projected trends in agriculture and the application of basic sciences to agriculture are presented.

Note
Required of freshmen in General Agriculture.

Repeat for Credit
N

Typically Offered
Fall

GENAG 112 - Ag Pathway: Animal Science, Health and Related Industries

Credits: 3

For completers of the Kansas Career Cluster Pathway in Agriculture, Food, and Natural Resources Career Cluster, Animal Science, Health and Related Industries

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

GENAG 113 - Ag Pathway: Diversified Agricultural Science

Credits: 3

For completers of the Kansas Career Cluster Pathway in Agriculture, Food, and Natural Resources Career Cluster, Diversified Agricultural Science

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

GENAG 114 - Ag Pathway: Food Products and Processing Systems

Credits: 3

For completers of the Kansas Career Cluster Pathway in Agriculture, Food, and Natural Resources Career Cluster, Food Products and Processing Systems

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

GENAG 115 - Ag Pathway: Natural Resources and Environmental Sustainability

Credits: 3

For completers of the Kansas Career Cluster Pathway in Agriculture, Food, and Natural Resources Career Cluster, Natural Resources and Environmental Sustainability

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

GENAG 116 - Ag Pathway: Plant Science and Industry Operations

Credits: 3

For completers of the Kansas Career Cluster Pathway in Agriculture, Food, and Natural Resources Career Cluster, Plant Science and Industry Operations

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

GENAG 189 - Introduction to the University Honors Program

Credits: 1

Overview of the University Honors Program including directions, goals, and student requirements for completion of the program.

Repeat for Credit
N

Typically Offered
Fall, Spring

GENAG 199 - Independent Study in Agriculture

Credits: 0-6

Student-specific projects or independent guided studies in agriculture.

Note
Departmental Consent

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GENAG 200 - Topics in Agriculture

Credits: 0-3

Selected issues in agriculture.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GENAG 201 - Leadership for Agricultural Advocacy

Credits: 1

This CAT Community "connector class" will help develop your advocacy skills for the agricultural industry by examining assumptions of advocacy and leadership. Explore and engage agricultural issues from the perspective of multiple stakeholders and develop your skills in critical thinking, communication, and productive conflict. This class will be highly interactive and discussion-based. We will focus on current events and engage with industry leaders.

Repeat for Credit
N

Requisites
Prerequisite: Acceptance into the Leadership for Agricultural Advocacy CAT Community Corequisites: ASI 102 and LEAD 212

Typically Offered
Fall

GENAG 202 - Animal Agriculture in 2050

Credits: 1

This CAT Community "connector class" will focus on issues and opportunities related to livestock production in the United States. Potential impacts of new technologies, new international competitors and markets, evolving consumer preferences and expectations, and societal concerns with animal agriculture will be examined. Paradigms that result in successful academic performance and meeting academic and career goals will also be discussed.

Note
Note: Livestock production experience is recommended.

Repeat for Credit
N

Requisites
Prerequisite: Acceptance into the Animal Agriculture in 2050 CAT Community. Corequisites: BIOL 198 and ASI 102

Typically Offered
Fall

GENAG 203 - The Need For Feed: Grain Science

Credits: 1

This CAT Community "connector class" will address the fundamentals of grain science, while at the same time gaining hands-on experience in K-State's modern laboratories, which include industrial scale flour mills, a feed production facility, and a bakery. It will also serve as an introduction to grains and their processing/utilization in food and non-food products, as well as exposure to career opportunities in grain and related industries.

Repeat for Credit
N

Requisites
Prerequisite: Acceptance into the Need for Feed:Grain Science CAT Community
Corequisites: BIOL 198 and GRSC 101

Typically Offered
Fall

GENAG 210 - Human and Cultural Diversity in the Food and Agricultural Sciences

Credits: 3

The purpose of this course is to introduce agriculture students to concepts of diversity by learning about cultural awareness, issues, and contributions made by different ethnic groups to the field of agriculture.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.
Historical Perspectives

GENAG 225 - Fundamentals of Global Food Systems Leadership

Credits: 3

An interdisciplinary approach to the fundamental roles people, policies, and cultures play in the global food system enterprise as it relates to sustainable food production, processing, distribution, and availability. Students will explore complexities within self, others, and community related to leadership in the context of a rapidly increasing

global population.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
DAS 225, LEAD 225

K-State 8
Global Issues and Perspectives

GENAG 325 - Uncertainty in Global Food Systems Leadership

Credits: 3

Explore technical and adaptive elements of grand challenges across disciplines. This course addresses the impact of cultural identity, life experience, and world views on leadership relationships as it relates to privilege and inclusion in the context of global food systems. Students will consider elements of community-engaged work.

Repeat for Credit
N

Requisites
Prerequisite: GENAG 225 or LEAD 225 or DAS 225.

Typically Offered
Spring

Cross-listed
LEAD 325, DAS 325

K-State 8
Global Issues and Perspectives

GENAG 396 - Research Topic and Proposal Development

Credits: 1

Undergraduate honors and scholars students learn the research process and identify and work with a faculty mentor to prepare an individual undergraduate research project proposal. Class presentations focus on strategies to identify and narrow a research topic, seek a research mentor, and develop a research proposal. Additional content will address common research methods, safety and compliance issues, and tips for persuasively presenting research results.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing or instructor permission.

Typically Offered
Fall, Spring

GENAG 399 - Agricultural Cooperative Education Experience

Credits: 1-5

Integration of academic principles into supervised industry experience in agricultural related field.

Note
Department permission

Repeat for Credit
Y

Typically Offered
Fall, Spring

GENAG 425 - Global Food Systems Leadership in Action

Credits: 3

In this capstone course, students will conduct a community-engaged global food systems leadership research/service project. Emphasis will be placed on data collection, analysis and dissemination to appropriate audiences. Additional emphases will be on ethical dimensions of leadership and individual exploration of careers and roles within global food systems.

Repeat for Credit
N

Requisites
Prerequisite: GENAG 325 or LEAD 325 or DAS 325.

Typically Offered
Fall

Cross-listed
LEAD 425

K-State 8
Global Issues and Perspectives

GENAG 450 - Citizenship and Ethics in Agriculture

Credits: 3

The study of agriculture's relationship with society while encompassing ethics and personal development. Current controversial issues and multidimensional policy topics facing the agricultural industry will be explored with an emphasis on moral and philosophical debates. Issues regarding professional ethics and decision making will also be an emphasis.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: Junior or senior standing.

Typically Offered
On sufficient demand

GENAG 495 - Honors Seminar

Credits: 1-3

Seminars treat topics relevant to students participating in the University Honors Program.

Repeat for Credit
N

Requisites
Prerequisite: Acceptance into the University Honors Program.

Typically Offered
Fall, Spring

GENAG 505 - Comparative Agriculture

Credits: 1-4

A travel-study program which is intended to acquaint students with agriculture of other countries and other parts of the United States and how it differs from Midwest-Great Plains agriculture relative to climate, crops, soils, livestock practices, marketing, and cultural attitudes toward agriculture.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives

GENAG 515 - Honors/Scholars Project

Credits: 0-1

Completion of an independent undergraduate research project or scholarly activity required for the University Honors Program or the College of Agriculture Scholars Program. Oral presentation and written report required. Taken during the semester when the project will be completed.

Note
Approved project proposal.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

GENAG 582 - Natural Resources/Environmental Science Project (NRES)

Credits: 3

A comprehensive project in NRES. Requires integration of information and understanding acquired in NRES secondary major courses. Students must prepare and present written and oral reports.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: All writing and oral communications courses required for major. Prerequisite or corequisite: 15 hours of approved courses in NRES secondary major.

Typically Offered
Fall, Spring

Cross-listed
DAS 582 and DEN 582

K-State 8
Natural and Physical Sciences
Social Sciences

GENAG 670 - Introduction to Agricultural Resources and Environmental Management

Credits: 2

Interdisciplinary, international study of agricultural and natural resource management sustainability. Discussion of agro-ecologic, economic, and social science perspectives; sustainability criteria; issues of scale and culture; disciplinary methods; and systems-level approaches. Applications to important natural resources and environmental management issues in Kansas, U.S., and in other countries.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Global Issues and Perspectives

GENAG 690 - Seminar in International Agriculture

Credits: 1

An in-depth study of international agriculture topics.

Note
One hour lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: Junior or senior standing.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives

GENAG 780 - Current Topics in Agriculture

Credits: 1-3

Selected topics studied to provide an in-depth understanding of current agricultural issues.

Repeat for Credit
Y

Typically Offered
On sufficient demand

GENAG 812 - Managing Occupational and Agricultural Safety and Health

Credits: 3

Examines program management and leadership issues in occupational and agricultural safety and health. Topics include business aspects of safety and health, management functions, workforce involvement, program development, motivation and leadership, program evaluation, ethics of safety and health, responding to the needs of a diverse workforce, and innovative program management for changing economic and societal contexts.

Note
This is a distance course.

Repeat for Credit
N

Typically Offered
Fall

GENAG 870 - Capstone for Agricultural Resources and Environmental Management

Credits: 1

Interdisciplinary, international application of agro-ecologic, economic, social science, and sustainability concepts and methods to important agricultural, natural resources and environmental management issues in Kansas, U.S., and

other countries.

Repeat for Credit
N

Typically Offered
Fall

GENBA 020 - University Honors Program

Credits: 0

All students participating in the University Honors Program and who are enrolled in the College of Business Administration must enroll each semester.

Repeat for Credit
Y

Typically Offered
Fall, Spring

GENBA 105 - Business Orientation

Credits: 0-1

A general orientation to the College of Business Administration and university, academic planning, advising and enrollment processes.

Note
Required for all students in the College of Business in their first semester in the College of Business Program.

Repeat for Credit
N

Typically Offered
Fall, Spring

GENBA 145 - Business and Society

Credits: 3

An overview of the role of business in society. Students will engage in a variety of activities including group discussions, practical learning exercises, and case examples to examine the historical, current, and future role of business in society. Students will explore the role that critical thinking plays in forming business decisions and learn about the impact of differing economic environments on businesses. Students will examine the importance of the entrepreneurial mindset in value creation and how businesses generate value for society.

Repeat for Credit
N

Typically Offered
Fall, Spring

GENBA 189 - Introduction to the University Honors Program

Credits: 1

Overview of the University Honors Program including directions, goals, and student requirements for completion of the program.

Repeat for Credit
N

Typically Offered
Fall, Spring

GENBA 195 - CAT Community Connections

Credits: 1-3

Interdisciplinary course that explores the connections among two different fields, courses, or disciplines. Topics and corequisites vary by section and semester.

Repeat for Credit
N

Typically Offered
Fall, Spring

GENBA 205 - Career Accelerator

Credits: 0-1

Essential course on career preparation for all business students with topics focused on career exploration, personal brand, networking, resumes, interview skills, and workplace expectations. Students completing this course will be well-equipped to engage with employers while leveraging extensive campus and College of Business resources to enhance internship and future employment opportunities.

Repeat for Credit
N

Requisites
Prerequisite: College of Business students only and Sophomore Standing.

Typically Offered
Fall, Spring, Summer

GENBA 299 - Honors Colloquium in Business

Credits: 1

Discussions and lectures on topics of interest to business students.

Note
Open to freshmen and sophomores in the honors program for the College of Business Administration.

Repeat for Credit
N

Typically Offered
Fall, Spring

GENBA 375 - International Business Experience

Credits: 0

An international business experience that requires travel to a foreign country. The length of the tour varies from one week to 16 weeks. This course enables students to complete an international experience that would include study, research, or work in a foreign country. The course provides enriched experience in the financial and business practices in a foreign country and enhances students" global and cultural awareness.

Repeat for Credit
N

Typically Offered
Fall, Spring

GENBA 391 - Administrative Communications

Credits: 3

Preparation of business communications, reports, and correspondence, and analysis of communication systems within an enterprise structure.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 120 and COMM 106.

Typically Offered
Fall, Spring, Summer

GENBA 399 - Honors Seminar

Credits: 1

The Honors Seminar is designed as a follow-up course to the Honors colloquium and it prepares students for the honors capstone project that culminates into the honors project. It also provides a forum for all honors students who are working on their capstone honors project to share and discuss their project ideas.

Note
Although students are encouraged to focus on a business-related topic, the choice of topic is open to all disciplines. The selection of an area of study is subject to the approval of the Honor Director (or Honors Committee).

Repeat for Credit
N

Requisites
Prerequisite: GENBA 299.

Typically Offered
Spring

GENBA 498 - Problems in Business Administration

Credits: 1-18

In-depth analysis of special problems in general business including study of current literature.

Note
Consent of instructor and the department head.

Repeat for Credit
Y

Requisites
Prerequisite: Senior standing

Typically Offered
On sufficient demand

GENBA 499 - Business Honors Project

Credits: 3

A business honors project is an independent study in an intellectual endeavor (research or creative activity) under the supervision of a faculty member. The project must be approved by the College of Business Honors Director in consultation with the faculty supervisor and the University Honors Program Director. Deliverables of an Honors project may include a paper presented at a student or professional conference, a paper presented at a faculty/student seminar, a paper appearing in a poster presentation or a paper submitted for a national competition.

Note
Open to juniors and seniors in the honors program for the College of Business Administration.

Repeat for Credit
N

Requisites
Prerequisite: GENBA 399.

Typically Offered
Fall, Spring

GENBA 675 - International Business Experience

Credits: 0

An international business experience that requires travel to a foreign country. The length of the tour varies from one week to 16 weeks. This course enables students to complete an international experience that would include study, research or work in a foreign country. The course provides enriched experience in the financial and business practices in a foreign country and enhances students' global and cultural awareness.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

GENBA 800 - MBA Professional Development

Credits: 1-3

This course will require the student to work with the director of the MBA program to outline a professional development program of 45 hours per hour of credit to enhance their MBA studies and to enhance their professional career.

Repeat for Credit
Y

Requisites
Prerequisite: Admission to the MBA program.

Typically Offered
Fall, Spring, Summer

GENBA 861 - International Field Study

Credits: 1-3

Graduate level course designed to provide students with an opportunity to observe international business by participating in a field trip outside the United States. This experiential course may involve a combination of business visits, interactions with business executives, cultural experiences, internship activities, or other learning activities while abroad.

Note
Instructor approval.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing

Typically Offered
Fall, Spring, Summer

GENBA 875 - MBA International Business Experience

Credits: 1-3

This course will consist of a faculty-led international experience designed to expose students to international business practices and culture.

Repeat for Credit

Y

Requisites
Prerequisite: Admission to the MBA program.

Typically Offered
Fall, Spring, Summer

GENBA 890 - Business Capstone

Credits: 3

The analysis of business problems, using knowledge and tools from previous courses. Students, under the supervision of a team of faculty, will analyze actual business case problems.

Repeat for Credit
Y

Requisites
Prerequisite: ACCTG 860, FINAN 715, GENBA 880 and MKTG 705.

Typically Offered
Spring

GENBA 894 - Data Analytics Capstone

Credits: 3

This course is a hands-on, project based course completed in cross-disciplinary groups. The capstone course will require students to work together on projects that will demonstrate their ability to collaboratively analyze large datasets, provide insight for practical problems and effectively communicate the resulting insights.

Note
Students are expected to take this capstone course at the end of the program.

Repeat for Credit
N

Requisites
Prerequisite: Student admitted in the Graduate Certificate in Data Analytics.

Typically Offered
Summer

GENBA 898 - Topics in Business

Credits: 1-3

Discussion and analysis of current issues in business such as accounting, management, finance, marketing, etc.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GEOG 100 - World Geography & Globalization

Credits: 3

Introduction to geography structured on a framework of major world regions and countries. Within the regional approach is an explicit discussion of the essential concepts rooted in historical, cultural, social, political, economic, religious, gender, urban geography, and globalization.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Global Issues and Perspectives
Historical Perspectives

GEOG 121 - Introductory Physical Geography: Earth Systems Science

Credits: 3

A systemic introduction to the processes and spatial patterns of the atmosphere, biosphere, geosphere, and hydrosphere and their interactions at the Earth's surface. Prepares science and engineering majors for more advanced coursework and promotes improved environmental literacy of non-science majors.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

GEOG 122 - Introduction to Physical Geography: Earth Systems Science Laboratory

Credits: 1

Laboratory investigation of the processes and spatial pasterns of the atmosphere, biosphere, geosphere, and hydrosphere and their interactions at the Earth's surface.

Repeat for Credit
N

Requisites
Corequisite: GEOG 121

Typically Offered
Fall, Spring

K-State Core
4 Natural and Physical Sciences

K-State 8
Natural and Physical Sciences

GEOG 200 - Human Geography

Credits: 3

A geographical assessment of the way human activities shape landscapes throughout the world. The course is especially appropriate for students interested in the social and behavioral sciences.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
5 Social and Behavioral Sciences

K-State 8
Global Issues and Perspectives
Social Sciences

GEOG 201 - Human Geography (Honors)

Credits: 3

Spatial aspects of human organization and behavior are examined through selected concepts in modern geography. The course is especially appropriate for students interested in the social and behavioral sciences.

Repeat for Credit
N

Requisites
Prerequisite: Membership in arts and sciences honors program.

Typically Offered
Fall

K-State Core
5 Social and Behavioral Sciences

K-State 8
Global Issues and Perspectives
Social Sciences

GEOG 235 - Atmospheric Science

Credits: 4

A comprehensive scientific study of the physics, chemistry, and dynamics of the earth's atmosphere, from the earth's surface to several hundred kilometers. Fundamental topics covered include atmospheric composition and variability, subdivisions of the atmosphere, energy and mass transfers within the Earth-atmosphere system, atmospheric circulation, and accurate prediction of atmospheric phenomena.

Repeat for Credit
N

Requisites
Recommended Foundation Course: MATH 100

Typically Offered
Fall

K-State Core
4 Natural and Physical Sciences

K-State 8

Empirical and Quantitative Reasoning
Natural and Physical Sciences

GEOG 300 - Geography of Tourism

Credits: 3

The geography of tourism is concerned with the structure, form, use, and conservation of the landscape as well as with such spatial conditions as the location of tourist areas and the movements of people from place to place. This course addresses such concepts as the economic, environmental, social, and cultural impacts of tourism as well as examining the tourist geography of each of the world's regions, focusing on the major tourist areas.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Social Sciences

GEOG 302 - Cartography and Thematic Mapping

Credits: 3

Introduction to cartographic history, theory and principles, thematic map design, symbolization, map perception, color theory, typography, and digital cartographic research. Laboratory work will familiarize students with the latest cartographic software that will be used to produce a series of thematic maps.

Note
The course will consist of two hours of lecture and two hours of lab per week.

Repeat for Credit
N

Requisites
Prerequisite: STAT 225 or equivalent.

Typically Offered
Fall

GEOG 310 - Geography of Kansas

Credits: 3

A regional and historical analysis of Kansas including discussion of the physical environment, historical development, and current geographic patterns.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Historical Perspectives
Human Diversity within the U.S.

GEOG 331 - Introduction to Japan

Credits: 3

Geographical survey of Japan from prehistoric times to the present day, which may include material on society, politics, and culture.

Repeat for Credit
N

Typically Offered
Other

Cross-listed
HIST 331

K-State 8
Global Issues and Perspectives
Historical Perspectives

GEOG 332 - Introduction to China

Credits: 3

Survey of the geography, history, politics, and culture of China from prehistoric times to the present day.

Repeat for Credit
N

Typically Offered
Other

Cross-listed
HIST 332

K-State 8
Global Issues and Perspectives
Historical Perspectives

GEOG 335 - European Landscapes

Credits: 3

Explores how humans have interacted with their environment and modified the natural and cultural landscape within Europe.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Natural and Physical Sciences
Historical Perspectives

GEOG 340 - Natural Resources

Credits: 3

The significance, environmental consequences, and locational characteristics of natural resources and resource-based economic activities, including agriculture, fishing, forestry, and mining. Sustainability and conservation considerations related to natural resource extraction, management, and use.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Natural and Physical Sciences

GEOG 350 - Earth System Geography

Credits: 4

A basic physical geography course emphasizing the geosphere, hydrosphere, atmosphere and biosphere, including the processes, patterns, and physical science background required to understand related issues such as natural hazards and human modification of earth systems.

Note
Offered in an on-line format during summer semesters only through the Division of Continuing Education.

Repeat for Credit
N

Typically Offered
Summer

GEOG 360 - Sustainability Concepts & Issues

Credits: 3

Exploration of sustainability concepts, approaches, and decision-making. Relation of sustainability to environmental, economic, and social considerations at global, regional, and local scales.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

GEOG 370 - Environmental Justice

Credits: 3

Introduction to the history of the environmental justice movement with a focus on resource exploitation, degradation of natural resources, (in)justice, race, class, and governance.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

GEOG 380 - World Population Issues

Credits: 3

Discussion of world population distribution, composition,

growth, and migration patterns and processes. Emphasis is on recent demographic changes at global, regional and local scales and their socioeconomic and environmental implications.

Repeat for Credit
N

Typically Offered
Fall or Spring

K-State 8
Global Issues and Perspectives
Empirical and Quantitative Reasoning

GEOG 399 - Honors Seminar in Geography

Credits: 2-3

Selected topics.

Note
Open to non-majors in the honors program.

Repeat for Credit
N

Typically Offered
Fall

GEOG 440 - Spatial Analysis of Surface Water Hydrology

Credits: 3

Introduces components and measurement techniques of surface water hydrology including precipitation, evapotranspiration, overland flow, and stream flow, as well as their spatial distribution on the Earth's surface and relationships between changes in surface water and the environment.

Repeat for Credit
N

Requisites
Prerequisite: GEOG 121 or instructor permission.

Typically Offered
Spring

K-State 8
Natural and Physical Sciences
Empirical and Quantitative Reasoning

GEOG 445 - Biogeography

Credits: 3

Covers: 1) the spatial and temporal patterns of the distribution of living organisms on Earth (including plants, animals, and microbes), and 2) the biological and physical processes responsible for these patterns. Biogeography has crucial insights to offer regarding conservation of rare species, global changes such as climate change, and human domination of the Earth surface.

Repeat for Credit
N

Requisites
Prerequisite: One course in geography, life science, or physical science.

Typically Offered
Spring

K-State 8
Natural and Physical Sciences

GEOG 450 - Geography of Economic Behavior

Credits: 3

The location of manufacturing industries and patterns of commercial activity. Case studies and simulations are used with emphasis on modern concepts of site selection and community development.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

GEOG 460 - Human Dimensions of Global Change

Credits: 3

An examination of the complexity of forces driving global change, with an emphasis on change related to population growth, technological development, and sociocultural and socioeconomic institutions.

Repeat for Credit
N

Requisites
Prerequisite: GEOG 121 and either GEOG 100 or GEOG 200.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

GEOG 490 - Problems in Geography

Credits: 1-18

Problems in Geography

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GEOG 495 - Capstone Seminar in Geography

Credits: 2

An integrative capstone seminar requiring geography majors to synthesize knowledge and skills acquired in prior geography courses. Students pursue independent projects in consultation with a faculty member and present their findings in written and oral reports. The course exposes students to and helps prepare them for a variety of professional and scholarly opportunities available after graduation.

Note
Meets for two hours once a week. Required of and restricted to geography undergraduate majors.
Junior standing recommended.

Repeat for Credit
Y

Requisites
Prerequisite: Junior geography majors.

Typically Offered
Spring

K-State 8
Social Sciences

GEOG 497 - Undergraduate Research in Geography

Credits: 1-3

Independent research project conducted with the guidance of a faculty mentor.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GEOG 498 - Honors Tutorial in Geography

Credits: 1-3

Individual directed research and study of a topic in geography, normally as a preliminary to writing a senior honors thesis.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing, membership in the honors Program of the College of Arts and Sciences, and permission of the instructor.

Typically Offered
Fall, Spring

GEOG 499 - Honors Project

Credits: 3

Open only to Arts & Sciences students who are active members of the University Honors Program.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

GEOG 500 - Geography of the United States

Credits: 3

A regional analysis of the United States with special attention to the historical, political, economic, and social factors which contribute to areal differentiation within the area.

Repeat for Credit
N

Typically Offered
Fall-Odd Years

K-State 8
Human Diversity within the U.S.
Social Sciences

GEOG 505 - South Asian Civilizations

Credits: 3

Interdisciplinary survey on the development of civilization in India, Pakistan, Sri Lanka, Bangladesh, Nepal, Bhutan, and Afghanistan, including geography, philosophy, social, economic, political institutions, and historical movements.

Repeat for Credit
N

Requisites
Prerequisite: Three hours of social science or junior standing.

Typically Offered
Fall-Even Years

Cross-listed
ANTH 505, ECON 505, HIST 505, POLSC 505, SOCIO 505

K-State 8
Global Issues and Perspectives
Social Sciences

GEOG 506 - Geography of South Asia

Credits: 3

This course will provide a survey of the physical and human geography of South Asia. More specifically, it will cover the major environmental, economic, demographic, and cultural geography patterns, processes, and issues of the region. Problems related to religious, ethnic, and linguistic diversity, along with environmental problems associated with global climate change and others will be examined in the context of modernization and economic development.

Note
This will be a lecture type course and each relevant topic will be covered in some detail.

Repeat for Credit
N

Requisites
Prerequisite: Three hours of Social Science or junior standing.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Social Sciences

GEOG 508 - Geographic Information Systems I

Credits: 4

Examination of the major theories, concepts, and operations in geographic information systems (GIS). Topics include: the structure of geographic data models, geographic data acquisition, spatial database management, data processing methods. Vector and raster GIS operations, and general approaches to GIS-based spatial modeling.

Note
The course will consist of two hours of lecture and two hours of lab a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOG 302.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

GEOG 510 - Geography of the American West

Credits: 3

A broad survey of the geography of the American West with a focus on the distinctive human and environmental characteristics of the region. Historical, cultural, ethnic, resource, land use, and physical landscape patterns are examined through lectures, readings, videos, and discussions.

Repeat for Credit
N

Requisites
Prerequisite: A previous course in geography and sophomore standing.

Typically Offered
Spring-Even Years

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

GEOG 535 - Global Climatology and Climate Change

Credits: 4

An examination of the physical processes that control the dynamics and spatial distribution of climates at the global scale, and how these processes can result in variation and change in the climate system. Topics include radiation and energy balance, global circulation, and the hydrologic cycle as well as the biosphere and humans as climate regulators and causes of change.

Repeat for Credit
N

Requisites
Recommended Foundation Course: GEOG 121.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Historical Perspectives

GEOG 550 - Political Geography and Geopolitics

Credits: 3

Critically analyzes relations between space and power in historical and contemporary geopolitical contexts, including topics such as sovereignty, border making, territorial disputes, and the formation (and dissolution) of nation-states.

Repeat for Credit
N

Requisites
Recommended Foundation Course: GEOG 100 or GEOG 200

Typically Offered
Fall

Cross-listed
POLSC 550: Political Geography and Geopolitics

K-State 8
Global Issues and Perspectives
Social Sciences

GEOG 600 - Mountain Geography

Credits: 3

A broad survey of the human and physical geography of mountains. The course utilizes lectures, discussion, videos, and photographs to examine the human-environment interactions, cultural symbolism and sacredness, recreation and tourism, and sustainable development of mountain landscapes. The regional focus is primarily on the American West, but other mountains throughout the world will also be studied.

Repeat for Credit
N

Requisites
Prerequisite: A previous course in geography and junior standing.

Typically Offered
Fall-Even Years

K-State 8
Natural and Physical Sciences
Social Sciences

GEOG 602 - Computer Mapping and Geographic Visualization

Credits: 3

Basic cartographic principles, advanced methods for representing spatial data, approaches for exploratory spatial data analysis, and practical applications of thematic maps, animated and Internet-based maps, and geographic visualization techniques. Students will prepare a series of maps and visualization products using modern geographic information system and illustration software.

Note
The course will consist of two hours of lecture and two hours of lab a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOG 508.

Typically Offered
Spring

GEOG 605 - Remote Sensing of the Environment

Credits: 3

Remote sensing and its application to earth study, especially environmental problems and land use. Course employs both readings and the use of imagery.

Note
Two hours lecture, two hours lab.

Repeat for Credit
N

Requisites
Prerequisite: One course in physical science and one in biological science.

Typically Offered
Fall, Spring

Cross-listed
AGRON 606

GEOG 608 - Geographic Information Systems II

Credits: 3

Advanced principles of and applications for geographic information systems (GIS). Examines the nature and accuracy of geo-referenced data and methods of data capture, storage, retrieval, modeling, and digital map display. Students will use modern GIS software packages and digital geographic data from physical and/or cultural sources to explore software procedures and techniques of spatial analysis, decision support, and geographic visualization.

Note
The course will consist of two hours of lecture and two hours of lab a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOG 302 and GEOG 508 (or consent of instructor).

Typically Offered
Fall

GEOG 610 - Geography Internship

Credits: 1-6

Faculty-supervised field experience, emphasizing the application of geographical topics and/or techniques. Student projects must be approved by both the on-site director and the faculty supervisor, and a report must be submitted at the end of the semester.

Repeat for Credit
N

Requisites

Prerequisite: Permission of the instructor and junior standing in geography is required.

Typically Offered
Fall, Spring, Summer

GEOG 620 - Mexico, Central America, and Caribbean

Credits: 3

A broad survey of the physical and human geographic patterns of Middle America (Mexico, Central America, and the Caribbean), past and present, with emphasis on the changing landscape features in the successive patterns of human occupancy and globalization.

Repeat for Credit
N

Typically Offered
Spring-Even Years

K-State 8
Global Issues and Perspectives
Historical Perspectives

GEOG 622 - Geography of South America

Credits: 3

A survey of the physical and human patterns of South America, past and present, with emphasis on the changing landscape features in the successive patterns of human occupancy and globalization.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Social Sciences

GEOG 660 - Geography of East Asia/China

Credits: 3

An introduction to the human and physical geography of East Asia, with emphasis on China. Examines this region's physical, cultural, and socioeconomic patterns and changes, as well as interactions with other parts of the world.

Repeat for Credit
N

Typically Offered
Fall-Even Years

K-State 8
Global Issues and Perspectives
Social Sciences

GEOG 680 - Geography of Landscape and Place

Credits: 1-3

This seminar explores cultural landscapes (built environments) and the character of place from a geographic perspective, offering junior, senior, and graduate students insights into geographical patterns and opportunities to develop research interests. Grounded in human and cultural geography, the course fosters interdisciplinary discussions, benefiting students from diverse backgrounds who are encouraged to contribute to the topics presented.

Repeat for Credit
Y

Requisites
Recommended Foundation Course: Junior status or consent of instructor.

Typically Offered
Fall

GEOG 690 - Historical Geography of the United States

Credits: 3

Interpretation and analysis of the American landscape and its regions from c. 1500 to c. 1950, with particular emphasis on landscape as both place and history. Also introduces and examines such current research topics as identity, contested places, landscape-as-text, and cultural politics.

Repeat for Credit
N

Requisites
Prerequisite: GEOG 100 and one course in American

history.

Typically Offered
Summer

K-State 8
Historical Perspectives
Human Diversity within the U.S.

GEOG 700 - Quantitative Analysis in Geography

Credits: 3

Quantitative methods employed in modern geographical research. Applications of both statistical and mathematical approaches will be treated. Emphasis will be placed on interpretation and evaluation of techniques employed in spatial analysis.

Repeat for Credit
N

Requisites
Prerequisite: One course in statistics.

Typically Offered
Spring

GEOG 705 - Thematic Remote Sensing

Credits: 3

Introduction to digital image analysis in remote sensing, with an emphasis on extraction of thematic information from imagery. Emphasizes mastery of both practical classification techniques and the theory behind those techniques. Topics covered include preparing imagery for classification; per-pixel and object-based classification techniques; use of parametric, non-parametric, and machine learning\A1-based decision rules; and techniques for validating classification accuracy. Classification techniques for hyperspectral imagery will also be covered.

Repeat for Credit
N

Requisites
Prerequisite: GEOG 605 or equivalent.

Typically Offered
Fall, Spring

GEOG 706 - Biophysical Remote Sensing

Credits: 3

An advanced seminar covering methods and models for retrieving quantitative information about the Earth's surface from remotely sensed data. Topics covered will include inversion techniques for determining surface radiance and reflectance, correction of atmospheric effects, theory of vegetation indices and their use in empirical determination of canopy properties, canopy models and their inversion, and the use of hyperspectral data for retrieval of surface biophysical information.

Repeat for Credit
N

Requisites
Prerequisite: GEOG 605.
Co-requisite: A course in a physical or biological science, MATH 210 or MATH 220, or equivalent.

Typically Offered
Fall, Spring

GEOG 707 - Remote Sensing of Water

Credits: 3

Reviews and expands the fundamentals of remote sensing theory, basic surface hydrology and hydraulics, remote sensing methods and instruments, measurements of various hydrologic parameters, and integrated approaches in water resource studies.

Repeat for Credit
N

Requisites
Prerequisite: GEOG 508 and GEOG 605 or instructor permission.

Typically Offered
Fall

GEOG 709 - Geography Field Research Techniques

Credits: 2-3

Explores methods and techniques employed in modern field research. Stresses research design, field data acquisition techniques, and data analysis.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing and at least 6 hours in geography.

Typically Offered
Summer

GEOG 711 - Topics in Remote Sensing

Credits: 3

Examination of a selected remote sensing topic in an area of faculty specialization.

Repeat for Credit
Y

Requisites
Prerequisite: GEOG 605.

Typically Offered
Spring

GEOG 712 - Internet GIS and Distributed Geographic Information Services

Credits: 3

Introduces the development and deployment of Internet maps and GIS-related web services. Students will use virtual globes and Internet map servers to learn the techniques of Internet mapping and development/delivery of geodata and geoprocessing services via the Web. Studio-style classes will focus on building the necessary skills for creating, as well as the practical applications of, customized GIS map applications and "mashups", web-based GIS services, and mobile GIS applications.

Repeat for Credit
N

Requisites
Prerequisite: GEOG 608.

Typically Offered
Spring

GEOG 715 - World Population Patterns

Credits: 3

Geographical processes that govern population distributions, growth rates, and migrations. Emphasis on international comparisons and implications for world society of continued differential growth rates.

Repeat for Credit
N

Requisites
Prerequisite: Six hours of social science.

Typically Offered
Fall-Even Years

GEOG 718 - Geography of Public Lands

Credits: 3

Overview of public lands systems, including distribution and uses of public lands, with an emphasis on United States federal lands. Historic and recent controversies regarding the public lands will be addressed. Seminar course with discussion and independent research components.

Repeat for Credit
N

Requisites
Prerequisite: Six hours of social science.

Typically Offered
Spring

GEOG 720 - Geography of Land Use

Credits: 3

Critical factors affecting land use, scarcity, and management examined in a regional, national, and global context; land use classification system and variation of land use patterns.

Repeat for Credit
N

Requisites
Prerequisite: Six hours of social science.

Typically Offered
Fall-Odd Years

GEOG 722 - Geographies of International Conservation

Credits: 3

Examines geographic perspectives of global biodiversity loss and conservation landscapes with an emphasis on the political, economic, and cultural dimensions of conservation around the world.

Repeat for Credit
N

Requisites
Prerequisite: 6 hours of social sciences.

Typically Offered
Fall

GEOG 725 - Geography of Water Resources

Credits: 3

Interpretation and analysis of the physical geography of water and water as a resource. Evaluation of water, emphasizing quality, hazards, institutions, and selected domestic and global issues.

Repeat for Credit
N

Requisites
Prerequisite: Six hours of social science.

Typically Offered
Spring-Even Years

GEOG 728 - Programming for Geographic Analysis

Credits: 3

Introduces programming languages, scripting methods, and/or free and open-source software (FOSS) and their use with geospatial technologies and spatial data. Explanations of programming concepts, demonstrations of techniques, and practical exercises that will enable students to develop their own programs and workflows for geoprocessing, spatial analysis, and map production.

Repeat for Credit
Y

Requisites
Recommended Foundation Course: GEOG 608

Typically Offered
Fall, Spring

GEOG 735 - Topics in Climatology

Credits: 3

Examination of a selected climatology topic in an area of faculty specialization.

Repeat for Credit
Y

Requisites
Prerequisite: GEOG 535.

Typically Offered
Fall

GEOG 740 - Fluvial Geomorphology

Credits: 3

Exploration of the forms and processes of streams and rivers with a focus on fluid flow mechanics, sediment transport in moving water, and predicting how rivers can change through time. Utilizes a combination of lectures, data analysis, and field work.

Note
The course meets for three hours of lecture per week with one required weekend field trip.

Repeat for Credit
N

Requisites
Prerequisite: GEOG 440 (or equivalent hydrology course) or graduate standing or instructor permission

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

GEOG 742 - Digital Geomorphology

Credits: 3

An exploration of geomorphic concepts and 'laws' describing how landscapes and rivers can be used to understand historic and contemporary issues through raster-GIS and the ArcGIS toolbox.

Note
Prerequisite: Instructor permission. Introductory-level knowledge of Geomorphology, GIS and/or statistics is recommended.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Historical Perspectives
Natural and Physical Sciences

GEOG 745 - Topics in Biogeography

Credits: 3

Examination of selected biogeography topics.

Repeat for Credit
Y

Requisites
Prerequisite: GEOG 445 or instructor permission.

Typically Offered
Fall

GEOG 747 - Soil Mapping

Credits: 3

Presents various approaches to soil mapping including the traditional soil-landscape paradigm, digital soil mapping, and a novel computer modeling. Local field sites will serve to reinforce techniques discussed.

Repeat for Credit
N

Requisites
Prerequisite: GEOG 121.

Typically Offered
Fall

K-State 8
Natural and Physical Sciences
Empirical and Quantitative Reasoning

GEOG 750 - Urban Geography

Credits: 3

A study of geographic principles relating to the distribution, function, and structure of cities: a geographic analysis and classification of urban settlements.

Repeat for Credit
N

Requisites
Prerequisite: Six hours of social science or planning.

Typically Offered
Fall

GEOG 761 - Human Impact on the Environment

Credits: 3

Assessment of human impacts on the natural environment. Surveys changing human impacts on and attitudes towards the environment, and details alteration of water systems, the atmosphere, landforms, plants, and animals.

Repeat for Credit
N

Requisites
Prerequisite: Six hours of social science.

Typically Offered
Spring

GEOG 765 - Geography of Natural Hazards

Credits: 3

Examines important emergency management issues related to hazard mitigation, preparedness, disaster response, and recovery, including sociocultural and physical components of disaster process. Assesses human vulnerability and risk to environmental calamities, such as droughts, floods, tornadoes, hurricanes, and earthquakes.

Repeat for Credit
N

Requisites
Prerequisite: Nine hours of social science.

Typically Offered
On sufficient demand

GEOG 770 - Perception of the Environment

Credits: 3

An examination of the way people perceive their geographic environment and the role of perception in spatial behavior. Perceptions of neighborhoods, cities, states, nations, frontier regions, and environmental processes are explored.

Repeat for Credit
N

Requisites
Prerequisite: Six hours of social science with one course above the introductory level, and 6 hours of natural science with one course above the introductory level.

Typically Offered
Spring-Odd Years

GEOG 780 - Cultural Geography

Credits: 3

A study of the forms of human occupancy of landscapes, with consideration of innovations in the use of landscape, the origins and the dispersals of these innovations, and human attitudes toward the natural environment.

Repeat for Credit
N

Requisites
Prerequisite: Six hours of social science.

Typically Offered
Spring-Even Years

GEOG 790 - Seminar in Geography

Credits: 1-3

Seminar in Geography

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Other

GEOG 795 - Topics in Geographic Information Science

Credits: 1-3

Selected geographic information science topic in science topic in an area of faculty specialization.

Repeat for Credit
Y

Requisites
Prerequisite: GEOG 302 or consent of instructor.

Typically Offered
Fall, Spring

GEOG 800 - Graduate Seminar in Geography

Credits: 0

Attendance of presentations and discussion of research procedures, results and philosophies.

Note
Required of all geography graduate students in resident.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall, Spring

GEOG 801 - Seminar in Qualitative and Mixed Methods Research

Credits: 3

Qualitative research techniques and integration of qualitative with basic statistical research techniques (mixed methods). Consideration of ethics, data collection, and data

analysis.

Repeat for Credit
N

Typically Offered
Spring

GEOG 808 - Geocomputation

Credits: 3

Explores the application of computationally-intensive approaches to the study of complex spatio-temporal problems. Students will learn to simulate, model, analyze, and visualize geographic phenomena that do not lend themselves to other mathematical and statistical methods.

Note
Enrolling students are strongly encouraged to have a strong background in GIS (e.g. GEOG 508 and GEOG 708) and familiarity with traditional statistical methods.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing.

Typically Offered
Spring

GEOG 815 - Rural Population Geography

Credits: 3

An examination of the population dynamics responsible for regional change in rural areas of the United States. Emphasis is placed on migration systems and changing population composition in Appalachia, Great Plains, rural South, and the Midwest.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 702 or GEOG 700 or equivalent, and GEOG 715 or SOCIO 830.

Typically Offered
Fall-Even Years

GEOG 820 - Geographic Thought

Credits: 3

History of geographic thought from ancient to modern times, emphasizing major themes and significant individual contributions.

Note
Required for all Master's students in geography.

Repeat for Credit
Y

Typically Offered
Fall

GEOG 821 - Research and Professional Development in Geography

Credits: 3

Geographic research approaches, design, implementation and reporting, with applications to research proposals and thesis conceptualization and structuring. Programmatic expectations of graduate students and professional development.

Note
Required for all Master's students in geography.

Repeat for Credit
N

Typically Offered
Fall

GEOG 822 - Advanced Geographies of International Conservation

Credits: 3

Examines geographic perspectives of global biodiversity loss and conservation landscapes with an emphasis on the political, economic, and cultural dimensions of conservation around the world.

Repeat for Credit
N

Requisites
Prerequisite: 6 hours of social science.

Typically Offered
Fall

GEOG 830 - Seminar in Rural Geography

Credits: 3

Exploration of rural geography concepts and research. Examines social, economic, cultural and environmental issues for rural areas and small towns, including natural resources and stresses and concerns related to sustainability of rural livelihoods and communities.

Repeat for Credit
Y

Typically Offered
Other

GEOG 833 - Seminar in Sustainability Science, Thought, and Approaches

Credits: 3

Exploration of scientific, social, and philosophical aspects of sustainability, including concepts, approaches, and decision-making. Environmental, economic, and social considerations will be included.

Repeat for Credit
N

Typically Offered
Fall

GEOG 835 - Rural Economic Development

Credits: 3

Applications of regional and community development models in rural areas of North America. Emphasis is placed on case studies of locational relationships between regional economic profiles, including changes in structure, and indices of betterment.

Repeat for Credit
Y

Requisites
Prerequisite: GEOG 700 or 700-level statistics course.

Typically Offered
Fall

GEOG 837 - Political Ecology of Land Cover Change

Credits: 3

An introduction to political ecology, concentrating on land use and land cover change.

Repeat for Credit
N

Requisites
Prerequisite: at least 6 hours in social science.

Typically Offered
Spring

GEOG 840 - Advanced Environmental Geography

Credits: 3

An examination of post-European settlement land use and climate changes and their impact on rural landform stability. Emphasis is on the response of uplands and river systems to land use and climate change and the techniques for documenting historical landform change.

Repeat for Credit
Y

Requisites
Prerequisite: GEOG 221; GEOL 520.

Typically Offered
Fall-Odd Years

GEOG 841 - Advanced Fluvial Geomorphology

Credits: 3

Studies the forms and processes in streams and rivers. Topics include mechanics of open channel flow, sediment entrainment and transport, river form in determining bank material, and sediment supply.

Repeat for Credit
N

Typically Offered
Spring

GEOG 842 - Advanced Digital Geomorphology

Credits: 3

A thorough exploration of geomorphic concepts and 'laws', by leveraging the power of raster-GIS and ArcGIS models in combination with modern digital elevation datasets.

Note
Instructor permission. Introductory-level knowledge of Geomorphology, GIS and/or statistics is recommended.

Repeat for Credit
N

Typically Offered
Spring

GEOG 850 - Topics in Environmental Geography

Credits: 1-3

Topics in Environmental Geography

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GEOG 855 - Seminar in Cultural Geography

Credits: 3

An examination of the development and distribution of the rural cultural landscapes, focusing particularly on elements of the material landscape. Emphasis placed upon research conducted in the Great Plains.

Repeat for Credit
Y

Requisites
Prerequisite: GEOG 500.

Typically Offered
Spring-Even Years

GEOG 860 - Topics in Economic Geography

Credits: 1-3

Topics in Economic Geography

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GEOG 861 - Human Impact on the Environment

Credits: 3

Assessment of human impacts on and attitudes towards the environment, and details alteration of water systems, the atmosphere, landforms,plants, and animals.

Repeat for Credit
N

Requisites
Prerequisite: Six hours of social science.

Typically Offered
Spring

GEOG 865 - Seminar in Medical Geography

Credits: 3

Emphasizing the pattern of social and environmental conditions on health and disease, this course examines medical care systems and health issues in rural areas of both developed and developing countries.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 702 or GEOG 700.

Typically Offered
Spring-Odd Years

GEOG 870 - Topics in Human Geography

Credits: 1-3

Topics in Human Geography

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GEOG 880 - Spatial Data Analysis and Modeling

Credits: 3

An examination of statistical techniques and models for analyzing spatial data, including global and local measures of spatial association, spatial cluster analysis, spatial autoregressive and geostatistical models, and geographically weighted regression (GWR).

Repeat for Credit
Y

Requisites
Prerequisite: GEOG 508 and GEOG 700 or equivalents.

Typically Offered
Spring

GEOG 890 - Advanced Spatial Analysis Techniques

Credits: 3

Integration of spatial analysis techniques and models with tools such as Geographical Information Systems and Remote Sensing as applied to rural resource systems. Explores strategies for adaptation of various types of spatial models into the GIS framework. Sources of data for analysis will be considered with special emphasis placed on use of remotely sensed data.

Repeat for Credit
Y

Requisites
Prerequisite: GEOG 705 and GEOG 708; GEOG 700 or STAT 702.

Typically Offered
Spring

GEOG 895 - Topics in Spatial Analysis

Credits: 1-3

Independent advanced study of a selected topic. An example is the use of remote sensing and GIS in environmental modeling.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GEOG 898 - Master's Report

Credits: 2

For students enrolled in geography option B.

Repeat for Credit
Y

Requisites
Prerequisite: Registration in Graduate School, with sufficient training to carry on the line of research undertaken. Consent of instructor.

Typically Offered
Fall, Spring, Summer

GEOG 899 - Master's Thesis

Credits: 6

For student enrolled in geography option A.

Repeat for Credit
Y

Requisites
Prerequisite: Registration in the Graduate School, with sufficient training to carry on the line of research undertaken. Consent of instructor.

Typically Offered
Fall, Spring, Summer

GEOG 900 - Methods, Theory, and Models in Geography

Credits: 3

Comparative analysis of contemporary methodology of geographic explanation showing their development, current status and future trends. Examination of problems and techniques of design, data collection, analysis, and interpretation which accompany particular research themes.

Repeat for Credit
Y

Requisites
Prerequisite: M.A. and consent of instructor.

Typically Offered
Fall

GEOG 990 - Research Problems in Rural Geography

Credits: 1-18

Individual study and research for students admitted to doctoral standing in the graduate school.

Repeat for Credit
Y

Requisites
Prerequisite: M.A. and consent of instructor.

Typically Offered
Fall, Spring

GEOG 999 - PhD Dissertation Research

Credits: 1-18

PhD Dissertation Research

Repeat for Credit
Y

Typically Offered
Other

GEOL 100 - Earth in Action

Credits: 3

The earth's physical, structural, and dynamic features; the most common minerals and rocks; processes affecting the earth.

Note
Three hours recitation a week.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
4 Natural and Physical Sciences

K-State 8
Historical Perspectives
Natural and Physical Sciences

GEOL 101 - Geology Colloquium

Credits: 1-3

Topics in earth science chosen to illustrate current research of scientists and methods chosen to study the physical universe. At each offering of this course a syllabus will be available giving the topics to be studied and the details of administration of the course.

Repeat for Credit
Y

Typically Offered
Fall, Spring

GEOL 103 - Geology Laboratory

Credits: 1

Laboratory investigation of rocks and minerals; use of geologic and topographic maps; understanding of stream and groundwater processes and landforms.

Note
Two hours lab a week.

Repeat for Credit
N

Requisites

Prerequisite or co-requisite: GEOL 100, GEOL 200, GEOL 115 or GEOL 125.

Typically Offered
Fall, Spring, Summer

K-State Core
4 Natural and Physical Sciences

K-State 8
Natural and Physical Sciences

GEOL 104 - Dynamic Earth Laboratory

Credits: 1

Covers basic principles and tools of the geosciences and their applications.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences

GEOL 105 - Oceanography

Credits: 3

The oceans: their boundaries, contents, and processes.

Note
Three hours recitation a week.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Natural and Physical Sciences

GEOL 110 - Introductory Geology Honors

Credits: 3

Survey of earth materials, features, and processes. Higher level of sophistication and challenge than GEOL 100.

Note
Three hours recitation a week.

Repeat for Credit
N

Typically Offered
Fall, Spring

GEOL 115 - Environmental Geology

Credits: 3

Discussion of Earth system materials including minerals, soil, sediment, rocks, water, and atmospheric gases and how they are impacted by human-environmental interactions, including contamination of surface water and groundwater; energy resources and the green energy agenda; plate tectonics, volcanism and accumulation of greenhouse gases as a driver of climate change.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
4 Natural and Physical Sciences

K-State 8
Global Issues and Perspectives
Natural and Physical Sciences

GEOL 120 - Age of Dinosaurs

Credits: 3

Reconstructs the world of the dinosaurs, and places it in the context of Earth's dynamic physical and biological history. The inferred biology and ecology of dinosaur species will be discussed, and the theories concerning their origin, evolution, and extinction will be presented.

Note
Three hours recitation a week.

Repeat for Credit
N

Typically Offered
On sufficient demand

GEOL 125 - Natural Disasters

Credits: 3

Discussion of geological phenomena such as earthquakes, volcanic eruptions, landslides, and floods, with particular emphasis on their causes, effects, and significance as hazards.

Note
Three hours recitation a week.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
4 Natural and Physical Sciences

K-State 8
Natural and Physical Sciences
Social Sciences

GEOL 200 - Earth Through Time

Credits: 3

Earth Through Time provides a comprehensive survey of Earth's 4.5 billion year history. It explores the major events that have shaped the physical and biological development of Earth and how processes like plate tectonics and climate change interact with life, forming an integrated system.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Pre-requisite: GEOL 100

Typically Offered
Fall, Spring, Summer

K-State Core
4 Natural and Physical Sciences

K-State 8
Historical Perspectives
Natural and Physical Sciences

GEOL 305 - Sustainable Earth Resources

Credits: 3

Formation and development of Earth's energy, mineral (metallic and non-metallic), and water resources. Additional emphasis will be placed on public and environmental impacts (e.g., climate change, water quality, food resources, etc.) of responsible resource exploitation and whether resource extraction can truly be sustainable.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 100 or GEOG 121.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Natural and Physical Sciences

GEOL 310 - Topics in Geology

Credits: 1-3

Seminar discussion of subjects of current interest in geology.

Repeat for Credit
N

Requisites
Prerequisite: A course in natural science at the 100 level or higher.

Typically Offered
Fall, Spring

GEOL 315 - Geology of the National Parks

Credits: 3

Geological survey of the land forms, structure, rocks and hazards of America's National Parks. Each park's geological development through time is explained with special attention placed on how the geologic processes

(igneous activity, mountain building and uplift, glaciation, weathering and erosion, wave action, and groundwater) shaped and created the exceptional landscapes in our national parks and the impact of human activities on these unique places that we as a nation have chosen to preserve.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 100 or GEOL 105 or GEOG 121

Typically Offered
On sufficient demand

K-State 8
Natural and Physical Sciences

GEOL 360 - Quantitative Methods in Geoscience

Credits: 3

Design geological data sampling, investigate whether or not two geological datasets are significantly different, develop regression-based equations among various quantities, analyze data in Excel and MATLAB, and handle large geological datasets.

Repeat for Credit
N

Requisites
Prerequisite: MATH 220 or STAT 225

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

GEOL 399 - Honors Seminar in Geology

Credits: 1-3

Selected topics.

Note
Open to non-majors in the honors program.

Repeat for Credit
N

Typically Offered
Fall, Spring

GEOL 499 - Senior Honors Thesis

Credits: 1-3

Directed research and preparation of an honors thesis.

Note
Open only to seniors in the arts and sciences honors program.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

GEOL 501 - Independent Study in Geology

Credits: 1-3

Independent reading; field or laboratory investigations, or both, of geologic problems.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall, Spring, Summer

GEOL 502 - Mineralogy

Credits: 3

Physical and chemical properties of minerals; crystallography; mineral formation; applications to economic geology and petrology; emphasis on mineral identification through laboratory analysis.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 100, GEOL 103, and either CHM 110

and CHM 111, or CHM 210 or CHM 250

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

GEOL 503 - Petrology

Credits: 3

Investigation of the physical and chemical processes forming igneous, metamorphic and sedimentary rocks and their links to tectonic processes that form the Earth's crust and mantle. Develop petrogenetic understanding through macroscopic and mircroscopic examination of rock mineralogy and textures.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 502

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

GEOL 506 - Environmental Studies

Credits: 3

Physical and chemical qualities of natural environments and health from a geologic perspective-detection and prediction of environmental changes, identification of sources of pollutants and their movements in soils, rocks, and waters.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 100.

Typically Offered
On sufficient demand

K-State 8
Global Issues and Perspectives
Natural and Physical Sciences

GEOL 510 - Geology of Planets

Credits: 3

Explores recent findings concerning the origin and evolution of planetary bodies in our Solar System, and of exoplanets in orbit around stars other than our Sun.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 100 or GEOL 125

Typically Offered
Summer

K-State 8
Natural and Physical Sciences

GEOL 512 - Earth Science

Credits: 3

A critical study of the atmosphere, weather, climate, composition, and processes of the earth; also, the interaction of these in producing the pattern of landforms and human activity.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 100 or GEOG 121

Typically Offered
On sufficient demand

GEOL 520 - Geomorphology

Credits: 3

Classroom, laboratory, and field studies of landforms and surficial deposits, with an emphasis on earth-surface processes. Classroom lectures and discussions; laboratory exercises; and field investigations.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 100 or GEOG 121.

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

GEOL 530 - Structural Geology

Credits: 3

Mechanics of the earth's crust; origin and interrelation of structures of the Earth. Students learn to identify the main structures, to interpret and integrate them in a regional geodynamic context. In addition, students learn to collect field data and to do quantitative analyses using stereographic projection.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 502

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

GEOL 540 - Geologic Record of Climate Change

Credits: 3

Introduction to the major forcing and feedback mechanisms responsible for climate change, and climate proxies from sedimentological, biological and geochemical archives. Investigation of key events on the Earth's climate history.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 100 or GEOG 121.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Natural and Physical Sciences

GEOL 560 - Field Methods

Credits: 3

Introduction to methods used to collect geologic data in the field. Emphasis is placed on map-reading, rock description, use of aerial photographs, and construction of geologic maps and cross sections. Learn how to write a field mapping report and safety protocols for field work.

Note
One hour recitation and four hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 503 and GEOL 530 (or co-enrollment in GEOL 530)

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

GEOL 581 - Principles of Paleontology

Credits: 3

An overview of paleontological principles relating to the application of the fossil record to questions of evolution, paleoecology, paleoenvironment, depositional dynamics, facies analysis, and stratigraphy. Identification of main fossil groups.

Note
Two 1.5 hour lectures, and one 3-hour lab per week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 200

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

GEOL 599 - Senior Thesis

Credits: 1-3

Directed research and preparation of a senior thesis.

Repeat for Credit
Y

Typically Offered
Fall, Spring

GEOL 601 - Economic Geology

Credits: 3

Geology and origin of mineral deposits, with an emphasis on critical minerals, suistainibility, economic significance, and resources necessary for society.

Repeat for Credit
N

Requisites
GEOL 503

Typically Offered
Spring

GEOL 602 - Mineral Exploration for a Sustainable Future

Credits: 3

Covers basic mineral exploration techniques required for a sustainable future for society. Students will gain experience in different geological, geophysical (induced polarization, magnetic and radiometry surveys), and geochemical techniques employed by the industry, with specific emphasis on critical materials used for the energy transition. Multidisciplinary approaches used to interpret large datasets to generate exploration targets which can be sustainably obtained are taught as well as guest lectures from industry professionals.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 503.

Typically Offered
On sufficient demand

GEOL 605 - Introduction to Aqueous Geochemistry

Credits: 3

Application of chemical principles to geological environments. Emphasis is placed on aqueous systems. Topics include acid-base and redox reactions in natural environments, geochemical kinetics, surface water and groundwater sampling, analytical geochemistry, and data analysis.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 110 and CHM 111 OR CHM 210 and CHM 211 Recommended Foundation Course: GEOL 502

Typically Offered
Spring

GEOL 611 - Hydrogeology

Credits: 3

Physical and chemical principles of the water cycle (evaporation, condensation, precipitation, runoff, stream flow, percolation, and groundwater flow), as well as environmentally relevant applications based on case studies. Extensive coverage of groundwater hydrology, surface water hydrology, soil moisture, contemporary global issues related to water resources, including pollution control, and also hydrogeochemistry will be discussed.

Note
Familiarity with web browsers, MS Excel or other spreadsheet software, word processor. Calc I and Calc II and Chm I and Chm II are recommended. Consult the instructor if you have not taken these courses.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 100 or GEOL 115.

Typically Offered
Spring

GEOL 620 - Volcanology

Credits: 3

Examines processes associated with active volcanoes as revealed by volcanic deposits. Emphasis on influence of volcanoes on human civilizations including economic deposits, climate change, or volcano monitoring.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 503

Typically Offered
On sufficient demand

GEOL 625 - Introduction to Engineering Geology and Petrophysics

Credits: 3

Students learn basic fundamentals to solve real-world problems in the area of geology and petrophysics. A field trip to an onshore oil rig in Kansas helps consolidating course materials with demands.

Repeat for Credit
N

Requisites
Prerequisite: MATH 220

Typically Offered
Spring

Cross-listed
GEOG 825

K-State 8
Natural and Physical Sciences
Empirical and Quantitative Reasoning

GEOL 630 - Sedimentology and Stratigraphy

Credits: 3

Identification of sedimentary rocks and interpretation of sedimentary properties and depositional environments; analysis of spatial and temporal relationships to interpret depositional history and basin evolution.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 503.

Typically Offered
Spring

GEOL 631 - Petroleum Geology

Credits: 3

Summarizes the fundamentals of Geology that need to be understood and integrated to manage petroleum reservoirs as well as other fluid resources. The course focuses on lessons learned from exploration and exploitation of petroleum reservoirs but techniques taught are transferrable to renewable resources.

Repeat for Credit
N

Requisites
Pre-requisites: GEOL 530 and GEOL 630

Typically Offered
Fall

GEOL 640 - Introduction to Geophysics

Credits: 3

Introduction to geophysics, its uses in studies of the earth's interior, its utility of illuminating subsurface geological features, and its applications in fields such as groundwater studies and the development of energy resources.

Note
Two hours recitation, and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 220, PHYS 113, or PHYS 213, or instructor consent.

Typically Offered
Fall

GEOL 642 - Field Geophysics

Credits: 3

Acquisition and computer processing of geophysical data such as those from seismic reflection, seismic refraction, gravity, magnetic and electrical methods.

Note
One hour recitation and four hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 640; co-enrollment, or instructor consent

Typically Offered
Spring

GEOL 650 - Geomicrobiology

Credits: 3

An introduction to microbiology and biogeochemical cycling and examination of interactions between microbes and geological environments. Topics include biomineralization, microbial weathering of minerals, and microbial impacts to greenhouse gas levels and water quality.

Note
Three hours a week. Lecture and Lab

Repeat for Credit
N

Requisites
Prerequisite: CHM 110 and CHM 111 OR CHM 210 and CHM 211

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

GEOL 680 - Field Geology

Credits: 3

Field projects in the Rocky Mountains designed to give students practical experience in apply geologic knowledge and skills.

Note
Three six-day weeks in the field.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 503, GEOL 530, and GEOL 560.

Typically Offered
Summer

GEOL 701 - Economic Geology

Credits: 3

Geology and origin of mineral deposits, with an emphasis on critical minerals, suistainibility, economic significance, and resources necessary for society.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 503.

Typically Offered
Spring

GEOL 703 - Economic Geology Laboratory

Credits: 1

Laboratory activities related to metallic and nonmetallic mineral deposits, including detailed studies of selected deposits.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 701 or concurrent enrollment.

Typically Offered
Fall

GEOL 704 - Carbonate Paleoenvironments

Credits: 3

Examination of the biological, physical, and chemical factors in reefs and shallow carbonate platform environments through Earth history, including their modern analogs. Attention will be given to the geometry of carbonate facies, their geographic and temporal distribution, and their sedimentary fabric and porosity.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 581 and GEOL 630.

Typically Offered
On sufficient demand

GEOL 705 - Biomineralization

Credits: 3

Discussion and critique of current and classic research in biomineralization.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 581 and GEOL 605.

Typically Offered
On sufficient demand

GEOL 708 - Sedimentary Geochemistry

Credits: 3

Geochemical principles and processes in deposition and diagenesis of sediments; different chemical pathways in the exogenic cycle.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 503 and MATH 220.

Typically Offered
On sufficient demand

GEOL 711 - Water Resources Geochemistry

Credits: 3

Geochemistry of ground and surface waters; emphasis on mineralogical, biochemical, and hydrologic controls on inorganic and organic interactions in natural waters.

Repeat for Credit
N

Requisites
Prerequisite: CHM 110 and CHM 111 OR CHM 210 and CHM 211; Recommended Foundation Course: GEOL 605

or AGRON 605

Typically Offered
Fall

GEOL 712 - Advanced Geochemistry

Credits: 3

Application of chemical principles to high temperature conditions relevant to igneous and metamorphic systems; emphasis is on integrating and utilizing a variety of scientific techniques (e.g., microscopy, geochemical analysis, modelling, theory) to solve problems and communicate ideas effectively.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 503 and CHM 230 OR CHM 250 (or instructor permission)

Typically Offered
On sufficient demand

GEOL 714 - Rock Microstructures and Geologic Processes

Credits: 3

Examination of mineral shapes, orientations and assemblages (rock fabric) as a record of geologic processes.

Note
Two hours lecture and two hour lab.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 503 and CHM 230.

Typically Offered
On sufficient demand

GEOL 715 - Dating Earth Materials

Credits: 3

Discusses how ages are measured for rocks, minerals, waters, and sediments by analysis of isotopes produced by radioactive decay or cosmic rays.

Repeat for Credit
N

Requisites
Prerequisite: CHM 230, GEOL 503.

Typically Offered
On sufficient demand

GEOL 720 - Quaternary Geology

Credits: 3

Quaternary stratigraphy as the framework for studying the geomorphic, climactic, archaeological, and biological changes of the last two million years, with emphasis on the North American record.

Note
Three hours recitation a week and one field trip a semester.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 630.

Typically Offered
On sufficient demand

GEOL 731 - Petroleum Geology

Credits: 3

Summarizes the fundamentals of Geology that need to be understood and integrated to manage petroleum reservoirs as well as other fluid resources. The course focuses on lessons learned from exploration and exploitation of petroleum reservoirs but techniques taught are transferrable to renewable resources.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 530 and GEOL 630

Typically Offered
Fall

GEOL 735 - Fossil Fuel Sedimentology

Credits: 3

Introduces geology and geochemistry of fossil fuels. Provides basic background information on carbon chemistry and its relationship to fossil fuels such as oil, natural gas and coal, as well as geochemical and petrologic (microscopic) characteristics of sedimentary organic matter and the distribution of fossil fuels through geologic time. Case studies of particular fossil fuel reserves are included.

Repeat for Credit
N

Requisites
Prerequisite: CHM 230

Typically Offered
On sufficient demand

GEOL 738 - Formation Evaluation

Credits: 3

Investigates projects on well log interpretation, petro-physical calculations, log corrections, and post-drilling decision workflows through lectures, discussions, laboratory exercises, or field trips.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 731.

Typically Offered
Fall

GEOL 740 - Regional Geology

Credits: 3

Interpretations of geomorphological, structural, stratigraphic, petrologic (igneous, metamorphic, and sedimentary), and tectonic history of selected geological regions on Earth. Classroom and field investigation.

Repeat for Credit
Y

Requisites
Prerequisite: GEOL 100, GEOL 103, and Instructor consent

Typically Offered
Spring, Summer

GEOL 741 - Seismic Data Processing

Credits: 3

Principles of 3D seismic data processing techniques and the application of industrial software package(s) to process raw field seismic reflection data to render it in a form suitable for the seismic interpretation stage. This form of seismic data is utilized in subsurface reservoir characterization.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 640, co-enrollment or instructor consent

Typically Offered
On sufficient demand

GEOL 742 - Seismic Data Interpretation

Credits: 3

Fundamental interpretation of 3D seismic reflection data as applied to hydrocarbon exploration and development problems. Students will conduct a project interpreting surface 3D seismic reflection data using industrial software package(s) for subsurface reservoir characterization.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 640, co-enrollment in GEOL 640, or Instructor consent

Typically Offered
Fall

GEOL 745 - Exploration Geophysics

Credits: 3

Principles and applications of seismic, gravity, magnetic, and other geophysical methods used in energy, mining, and other industries to locate subsurface targets of interest.

Note
Two hours recitation and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 742

Typically Offered
On sufficient demand

GEOL 747 - Introduction to Matlab

Credits: 3

Practical introduction to Matlab designed for students who may have limited experience with data processing. Includes handling data (import/export from other softwares/format), data structure, data processing, data visualization (2D, 3D graphs), designing functions, selection statements, loops, programming, descriptive statistics, plots for exploratory data analysis, fit probability distributions to data, regression analysis.

Repeat for Credit
N

Typically Offered
Spring

GEOL 750 - Geologic Evolution of Planet Earth

Credits: 3

Integration of the various geologic disciplines into a broad-based understanding of the history and dynamics of the earth.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Co-enrolled in other Geology BA or BS courses or Instructor consent

Typically Offered
On sufficient demand

GEOL 760 - Geochemical and Biogeochemical Modeling

Credits: 3

Use of popular geochemical modeling software to analyze geochemical and biogeochemical reactions in aqueous environments.

Repeat for Credit
N

Requisites
Prerequisite: CHM 110 and CHM 111 Recommended Foundation Course: GEOL 605.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

GEOL 770 - Subsurface Methods

Credits: 3

Principles and applications of subsurface geology.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 530 or concurrent enrollment.

Typically Offered
Spring

GEOL 790 - Problems in Geology

Credits: 0-18

Work is offered in mineralogy, paleobiology, paleoecology, stratigraphy, structural geology, igneous, metamorphic, and

sedimentary petrology, geomorphology, planetary geology, hydrogeology, geochemistry, and isotope geology.

Repeat for Credit
Y

Requisites
Prerequisite: Background of courses needed for problem undertaken.

Typically Offered
Fall, Spring, Summer

GEOL 800 - Graduate Seminar in Geology

Credits: 1-18

Topics in geology, geochemistry, and geophysics.

Repeat for Credit
Y

Typically Offered
Fall, Spring

GEOL 801 - Advanced Paleobiology

Credits: 2

Detailed study of the functional morphology, ecology, biogeography, evolution, and classification of selected groups.

Repeat for Credit
Y

Requisites
Prerequisite: GEOL 704 or GEOL 705.

Typically Offered
On sufficient demand

GEOL 802 - Mineral Exploration for a Sustainable Future

Credits: 3

Investigates basic mineral exploration techniques required for a sustainable future for society. Students gain experience in different geological, geophysical (induced polarization, magnetic and radiometry surveys), and geochemical techniques employed by the industry, with specific emphasis on critical materials used for the energy transition. Multidisciplinary approach used to interpret large datasets to generate exploration targets which can be sustainably obtained are taught as well as guest lectures from industry professionals.

Note
This course includes a required 5-day field trip

Repeat for Credit
N

Requisites
Pre-requisite: GEOL 503

Typically Offered
On sufficient demand

GEOL 804 - Igneous and Metamorphic Petrology

Credits: 2 - 4

Selected problems in the petrogenesis of igneous and metamorphic rocks.

Note
Two to three hours lecture and one to three hours lab per week.

Repeat for Credit
Y

Requisites
GEOL 503

Typically Offered
On sufficient demand

GEOL 805 - Advanced Igneous and Metamorphic Petrology

Credits: 3

Explores the geochemical, petrographic, and petrologic characteristics of the common igneous and metamorphic rocks, building on concepts learned in introductory-level petrology courses.

Repeat for Credit
Y

Requisites
Prerequisite: GEOL 503 or equivalent.

Typically Offered
Fall

GEOL 806 - Sedimentary Petrology

Credits: 4

Petrography, classification, and origin of terrigenous and chemical sedimentary rocks.

Note
Three hours lecture and three hours lab a week.

Repeat for Credit
Y

Requisites
Prerequisite: GEOL 630

Typically Offered
On sufficient demand

GEOL 807 - Advanced Sedimentary Petrology

Credits: 2

Field and laboratory study of selected problems in the origin of sedimentary rocks.

Repeat for Credit
Y

Requisites
Prerequisite: GEOL 806.

Typically Offered
On sufficient demand

GEOL 810 - Isotope Geology

Credits: 3

The principal goal of the course is to understand how variations in radiogenic and stable isotopic abundances can be used to understand Earth processes, including evolution of the solid Earth, the hydrological cycle, the carbon cycle, and climate change.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
GEOL 503 or Instructor Consent

Typically Offered
Fall

GEOL 825 - Advanced Engineering Geology and Petrophysics

Credits: 3

Students learn advanced concepts with broad applications in the oil/gas industry, analyze actual experimental data, and use state-of-the-art software in the areas of unconventional reservoirs.

Repeat for Credit
N

Requisites
Prerequisite: MATH 220

Typically Offered
Spring

Cross-listed
GEOL 625

GEOL 830 - Geotectonics

Credits: 3

Origin and history of major tectonic elements of the earth, especially their interaction through time.

Repeat for Credit
Y

Requisites
Prerequisite: GEOL 530.

Typically Offered
On sufficient demand

GEOL 835 - Advanced Petroleum Exploration, Imperial Barrel Award Competition

Credits: 3

Evaluation of exploration prospects in frontier and underdeveloped petroleum provinces using borehole-derived and geophysical data. Team taught course that uses industry provided datasets and current data management and interpretation software to reach drill or no-drill decisions based on science, risk analysis, and economics.

Repeat for Credit
N

Typically Offered
On sufficient demand

GEOL 870 - Groundwater Contaminant Remediation

Credits: 3

Identification and mensuration of groundwater contaminants and consideration of means for their remediation strategies.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 711, GEOL 611, MATH 633 and MATH 634.

Typically Offered
On sufficient demand

GEOL 872 - Biogeochemistry of Soils and Sediments

Credits: 3

Review and discussion of current understanding of the chemical, biological, and mineralogical interactions of groundwater, soils, shallow and deep sediments. This course will deal with biotic controls on chemistry of the environment [and] with the geochemical control of the structure and function of ecosystems.

Repeat for Credit
N

Requisites
Prerequisite: GEOL 711, GEOL 605.

Typically Offered
On sufficient demand

GEOL 880 - Clay Mineralogy

Credits: 3

Geologic occurrences, physical properties, atomic structures, and the identification of clay minerals, including thermal analytical methods and the study of X-ray diffraction patterns.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
Y

Requisites
Prerequisite: GEOL 503 or GEOL 711 or AGRON 205

Typically Offered
On sufficient demand

GEOL 890 - Advanced Seismology

Credits: 3

Mechanics of faulting and earthquakes; seismotectonics; advanced data analysis; seismic wave propagation in three-dimensionally inhomogeneous media; earthquake prediction and hazard analysis.

Note
One hour recitation and four hours lab per week.

Repeat for Credit
Y

Requisites
Prerequisite: PHYS 114 and GEOL 640

Typically Offered
On sufficient demand

GEOL 898 - Master's Report Research

Credits: 1-2

Research or practice of geology summarized in a scholarly report.

Repeat for Credit

Y

Requisites
Prerequisite: Enrollment in geology option B and permission of instructor.

Typically Offered
Fall, Spring, Summer

GEOL 899 - Master's Thesis Research

Credits: 1-6

Research in geology culminating in a master's thesis.

Repeat for Credit
Y

Requisites
Prerequisite: Enrollment in geology option A and permission of instructor.

Typically Offered
Fall, Spring, Summer

GEOL 999 - Research in Geology, PhD

Credits: 1-18

Research in Geology, PhD

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GERON 215 - Introduction to Gerontology

Credits: 3

Introductory exploration of diverse biological, psychological, and sociological factors that impact the aging process across the life course.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Human Diversity within the U.S.
Social Sciences

GERON 425 - Introduction to Physical Health & Well-Being of Older Adults

Credits: 3

Introductory examination of processes involved in physiological aging that considers the effects of normal aging, chronic and acute disease, and environmental factors on systems of the body. Focus on health promotion and practical application with diverse populations to prepare students for careers in the field of aging.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198

Typically Offered
Spring-Odd Years

K-State 8
Natural and Physical Sciences

GERON 430 - Introduction to Mental Health & Aging

Credits: 3

Introductory exploration of mental health and aging utilizing a variety of theoretical perspectives within an overall systems framework. Major emotional, mental, and psychiatric functions and problems encountered in old age will be examined along with evidence-based approaches to assessment, intervention, and treatment.

Repeat for Credit
N

Typically Offered
Fall-Odd Years

K-State 8
Social Sciences

GERON 501 - Culture Change in Long-Term Care

Credits: 1

This course will cover the basic characteristics of traditional and culture change nursing home models. Student will learn about the various processes of organizational change, the steps toward change, and potential regulatory, environmental and social barriers to major change. The course will include discussions about the necessity to change the way care is provided in such areas as dining, bathing, family/relationships, and environment.

Note
This overview is recommended as the first course for students unfamiliar with culture change and is delivered online.

Repeat for Credit
N

Typically Offered
Fall

GERON 502 - Measuring Change in Long-Term Care

Credits: 1

Topics covered will include process and outcome measures in nursing home change as well as the importance of and the utility of measurement for the advancement of quality of life issues in long-term care. Students will gain an understanding of how regulatory support will be more likely to occur if culture change features can show a cost savings as well as improvements in the quality of life of residents.

Note
This on-line course should be taken after or concurrently with GERON 501.

Repeat for Credit
N

Typically Offered
Fall

GERON 503 - Creating Home in Long-Term Care

Credits: 1

Students will gain a better understanding of the interdependent networks within nursing homes, environmental factors in the development of community and culture in a nursing home, learn how fostering resident, family and staff interactions can improve quality of life for all those groups, understand the role of structural redesign and innovation, and consider how environmental change can improve relationships within the larger community.

Note
This on-line course should be taken after or concurrently with GERON 501.

Repeat for Credit
N

Typically Offered
Spring

GERON 504 - Strengthening Staff in Long-Term Care

Credits: 1

Topics covered will include the development of deeper relational bonds within the nursing home environment, benefits of permanent staffing as a key component of building a relationship centered culture, how these types of changes can benefit and empower staff, and models for bridging cultural divides between long-term care administrators and staff to benefit the residents. A review of the impact of traditional models of managed care that focus on providing food, shelter, and medical attention and factors that hinder purposeful, proactive interactions between residents, families and staff.

Note
This on-line course should be taken after or concurrently with GERON 501.

Repeat for Credit
N

Typically Offered
Fall

GERON 505 - Dining in Long-Term Care

Credits: 1

Students will develop an appreciation of the impact dining has on the quality of social, physical and emotional health and quality of life of nursing home residents, become aware of the meanings/customs that residents may associate with

the dining experience, recognize the importance of the dining experience in the overall culture of the home and develop an understanding of various institutional dining styles.

Note
This online course should be taken after or concurrently with GERON 501.

Repeat for Credit
N

Typically Offered
Spring

GERON 506 - Activities in Long-Term Care

Credits: 1

A review of common activities in long-term care, their importance in resident care, the importance of meaningful activity and relationships, how the long-term care culture impacts resident individuality/choice, and individualized care plans.

Note
This on-line course should be taken after or concurrently with GERON 501.

Repeat for Credit
N

Typically Offered
Spring

GERON 516 - Introduction to Aging Veterans

Credits: 3

An introductory overview to the unique issues involved with aging military veterans and their families. Topics include military structure, major United States conflicts, personnel issues resulting from conflicts since WWII, Veteran benefits, cultural issues, veteran health issues and application to working with aging veterans.

Repeat for Credit
N

Typically Offered
Fall

GERON 525 - Introductory Topics in Gerontology

Credits: 1-3

Introductory study of selected topics in gerontology.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GERON 530 - Introduction to Sexuality & Aging

Credits: 3

Introductory exploration of sexual development and expression across the lifespan with an emphasis on older adults. Topics include misconceptions about older adult sexuality, physiological changes, social barriers and challenges, sexual diversity, policy and access considerations, and impacts of disease and cognitive decline.

Repeat for Credit
N

Typically Offered
Summer-Even Years

K-State 8
Human Diversity within the U.S.
Social Sciences

GERON 540 - Introduction to Creativity & Aging

Credits: 3

Introductory overview of the transformation of the aging brain that can lead to changes in creative output over time. Students will grow an appreciation for creativity produced and inspired by older people while simultaneously exploring their own creative potential.

Repeat for Credit
N

Typically Offered
Spring-Even Years

K-State 8
Aesthetic Interpretation
Social Sciences

GERON 574 - Introduction to Environments & Aging

Credits: 3

Introductory interdisciplinary exploration of preferences and needs of older adults' physical environments. Emphasis placed on successful environmental adaptations, design and management of housing, institutional facilities, neighborhoods, and communities.

Repeat for Credit
N

Typically Offered
Summer-Odd Years

K-State 8
Social Sciences

GERON 575 - Introduction to Diversity in the Aging Experience

Credits: 3

Introductory exploration of aging in the contexts of the social determinants of health and diversity, equity, inclusion, and belonging.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Ethical Reasoning and Responsibility

GERON 576 - Introduction to Program Design, Implementation, & Evaluation in Gerontology

Credits: 3

Introductory study of selecting, adapting, designing, implementing, and evaluating effective prevention and intervention programs for older adults.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Social Sciences

GERON 577 - Introduction to Policy and Advocacy in Gerontology

Credits: 3

Introductory examination of complex and interrelated policies and programs that impact the well-being of older adults.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Historical Perspectives
Human Diversity within the U.S.

GERON 578 - Introduction to Aging Family Dynamics & Caregiving

Credits: 3

Introductory exploration of inter-generational, interpersonal, and care-giving relationships during the middle and later years of the family life cycle.

Repeat for Credit
N

Typically Offered
Summer-Even Years

K-State 8
Social Sciences

GERON 605 - Practicum in Gerontology

Credits: 1-3

Supervised field experience in an aging-related setting as a

practical application of gerontological knowledge and skills.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GERON 610 - Seminar in Long-Term Care Administration

Credits: 3

Encourages the development of leadership skills within long-term care organizations by covering administrative principles involved in planning, organizing, and directing and includes in-depth exposure to the standards and regulations governing long-term care, social and medical models of care, and the process of change within these organizations.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

GERON 615 - Long-Term Care Administration Internship

Credits: 1-9

Supervised field experience in an approved long-term care setting designed to meet the requirements for the National Association of Long-Term Care Administrator Board exam. Most students who successfully complete this experience will be eligible to sit for the necessary national and/or state administrator exams.

Note
Email: gerontology@ksu.edu for instructor permission.

Repeat for Credit
Y

Requisites
Prerequisite: GERON 610 and Instructor Permission.

Typically Offered
Fall, Spring, Summer

GERON 620 - Independent Study in Gerontology

Credits: 1-3

Independent study on topics in gerontology.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GERON 625 - Advanced Physical Health and Well-Being of Older Adults

Credits: 3

Advanced examination of the processes involved in physiological aging that considers the effects of normal aging, chronic and acute disease, and environmental factors on systems of the body. Focuses on health promotion and practical application with diverse populations to prepare students for careers in the field of aging.

Repeat for Credit
N

Typically Offered
Spring-Odd Years

K-State 8
Natural and Physical Sciences

GERON 630 - Advanced Mental Health and Aging

Credits: 3

Advanced exploration of mental health and aging utilizing a variety of theoretical perspectives within an overall systems framework. Major emotional, mental, and psychiatric functions and problems encountered in old age

are examined along with evidence-based approaches to assessment, intervention, and treatment.

Repeat for Credit
N

Typically Offered
Fall-Odd Years

K-State 8
Social Sciences

GERON 700 - Gerontechnology

Credits: 3

An interdisciplinary approach to the understanding of the biological, environmental, and social spheres where technology and gerontology meet. Topics include the interrelationship between population dynamics and technological change, technological research and devices that may improve elders' lives, particular issues for rural communities, and the social and cultural meanings, challenges, and benefits of gerontechnologies. Particular emphasis will be given to placing both population aging and technological change in a broader social perspective.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Social Sciences

GERON 711 - Advanced Death and Dying

Credits: 3

An in-depth evaluation of the experience of death, dying, loss and bereavement through a multi and cross-cultural lens. Emphasis will be given to strategies for working with older adults and their support systems. These strategies include coping and preparation for end of life-process and advanced care planning. Students will also be encouraged to share their own experiences with death, dying and coping.

Repeat for Credit
N

Typically Offered
Fall

GERON 715 - Aging Veterans

Credits: 3

Introduction to the unique issues involved with aging military veterans. Topics include basic military structure, media portrayal of war, personnel issues resulting from American conflicts since WWII, veteran benefits, cultural issues, veteran health issues and navigating a career within the U.S. federal system.

Repeat for Credit
N

Typically Offered
Fall

GERON 720 - Design for Aging in the Modern World

Credits: 3

This course will explore the dynamic process of aging and the role of the built environment in the, multidimensional as well as multi-spheral spaces of life-course occurring in the family, work, education, leisure as well as other domains and its relationship to the environment from a life-course perspective. The emphasis on aging and the environment will focus on how individuals and groups manage interactions associated with the social and physical settings. The course will develop students' foundational knowledge in the theories of aging, environment and behavior, and the ecology of the aging process. These theories will be used as the basis to discuss and debate contemporary issues that confront an aging society. Three levels of the environment will be explored: the microenvironment including those products that people of all ages interact with on a daily basis; the meso (or middle) environment that includes residential and work settings that shape our relationships with family, friends, and associates, and lastly at the macro environment of our communities where people are connected to the larger social settings, services and supports that make up our cities and rural settings, both from a national and international perspective. Each of the sections covered will acknowledge how behavior is influenced by the environment and spans the life-cycle.

Repeat for Credit
N

Typically Offered
Fall

GERON 725 - Advanced Topics in Gerontology

Credits: 1-3

Advanced study of selected topics in gerontology.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GERON 730 - Advanced Sexuality and Aging

Credits: 3

Advanced exploration of sexual development and expression across the lifespan with an emphasis on older adults. Topics include misconceptions about older adult sexuality, physiological changes, social barriers and challenges, sexual diversity, policy and access considerations, and the impacts of disease and cognitive decline.

Repeat for Credit
N

Typically Offered
Summer-Even Years

GERON 740 - Advanced Creativity and Aging

Credits: 3

Advanced overview of transformation of the aging brain that can lead to changes in creative output over time. Students will grow an appreciation for creativity produced and inspired by older people while simultaneously exploring their own creative potential.

Repeat for Credit
N

Typically Offered
Spring-Even Years

K-State 8
Aesthetic Interpretation
Social Sciences

GERON 772 - Adult Development Aging

Credits: 3

Exploration of the biological, psychological, and sociological aspects of individual and interpersonal development in aging from a life course perspective.

Repeat for Credit
N

Typically Offered
Fall

GERON 773 - Physical Health and Nutrition in Aging

Credits: 3

This course identifies the basic physiologic changes during aging and their impacts in health and disease. The focus will be on successful aging with special emphasis on physical activity and nutrition. Practical application to community settings is addressed.

Repeat for Credit
N

Requisites
Prerequisite: Enrolled in Gerontology (MS) or Gerontology Graduate Certificate.

Typically Offered
Fall

GERON 774 - Advanced Environments and Aging

Credits: 3

Advanced interdisciplinary exploration of preferences and needs of older adults' physical environments.
Emphasis placed on successful environmental adaptations, design and management of housing, institutional facilities, neighborhoods, and communities.

Repeat for Credit
N

Typically Offered
Summer-Odd Years

GERON 775 - Advanced Diversity in the Aging Experience

Credits: 3

An advanced exploration of aging in the contexts of the social determinants of health and diversity, equity, inclusion, and belonging.

Repeat for Credit
N

Typically Offered
Fall, Spring

GERON 776 - Advanced Program Design, Implementation, & Evaluation in Gerontology

Credits: 3

Advanced study of selecting, adapting, designing, implementing, and evaluating effective prevention and intervention programs for older adults.

Repeat for Credit
N

Typically Offered
Spring

GERON 777 - Advanced Policy & Advocacy in Gerontology

Credits: 3

Advanced examination of complex and interrelated policies and programs that directly and indirectly impact the well-being of older adults.

Repeat for Credit
N

Typically Offered
Fall, Spring

GERON 778 - Advanced Aging Family Dynamics & Caregiving

Credits: 3

Advanced exploration of intergenerational, interpersonal, and caregiving relationships during the middle and later years of the family life cycle.

Repeat for Credit
N

Typically Offered
Summer-Even Years

GERON 779 - Professional Seminar in Gerontology

Credits: 3

Students apply and integrate knowledge gained in earlier courses and strengthen skills in ethical decisions-making through applications in gerontology-related areas such as advocacy, professionalism, family and workplace issues. Students from a variety of professions bring their unique perspective to bear on topics of common interest.

Repeat for Credit
N

Typically Offered
Summer

GERON 799 - Professional Application in Gerontology

Credits: 1-3

Individual study that forms the basis of the master's culminating experience.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GRAD 700 - Graduate Education Abroad

Credits: 0-18

"Education abroad" is **a chance to pursue your college**

studies in a foreign country. Students attend lectures or carry out research at a foreign university or through K-State's education-abroad program.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GRAD 740 - Water and Society: Interdisciplinary Foundation

Credits: 3

Interdisciplinary course focused on the natural and human elements of water resource systems; introduction to traditional disciplinary procedures, theory, and models; cross-disciplinary approaches to understand and quantify dynamic system relationships; case study for integrated problem solving, management and policy.

Note
Three hours recitation.

Repeat for Credit
N

Requisites
Prerequisite: Senior or graduate standing.

Typically Offered
Spring

GRAD 820 - Leadership Practicum

Credits: 3

Develops the connections between leadership theory and practice. By conducting a practicum project, students demonstrate the ability to apply concepts and ideas from the study of leadership to a practical leadership problem within an organization.

Repeat for Credit
Y

Requisites
Prerequisite: LEAD 801.

Typically Offered
Fall, Spring

GRAD 850 - Foundations of Homeland Security

Credits: 3

This introductory course provides the foundational framework for the Homeland Security program and surveys the major policies, practices, concepts, and challenges confronting practitioners in Homeland Security. Topics include an overview of threats to homeland security and an introduction to the roles, functions, and policies of organizations and government structures at the federal, tribal, state, and local levels. The National Response Framework (NRF) and National Incident Management System (NIMS) are studied.

Repeat for Credit
N

Typically Offered
Fall

GRAD 851 - Homeland Security Threats

Credits: 3

Students will understand the various types of disasters, methodologies of disaster recovery, and roles and responsibilities of Federal, State, and local government. It will address the impact of disasters, including acts of terrorism, to include economic, physical, emotional, and psychological effects. Students will understand how disasters affect society, risk mitigation strategies, and how the levels of government coordinate to address disaster impacts.

Repeat for Credit
N

Typically Offered
Fall

GRAD 852 - Organizations Amid Crisis

Credits: 3

The fundamental concepts and subject areas necessary for an organization to address in preparing for catastrophic emergency events and other events encountered by organizations as a result of homeland security are examined. It outlines the organization and practical steps required to develop an effective crisis response plan. The relationships between private and public service

organizations, including governmental, nonprofit, and hybrid types are studied.

Repeat for Credit
N

Typically Offered
Fall

GRAD 853 - Homeland Security Process and Management

Credits: 3

Students will understand strategic, political, legal, and organizational challenges associated with the defense of the U.S. homeland, efforts that are under way to meet these challenges, and possible policy options. Intergovernmental responsibilities and relationships of local, state, and federal agencies in an "all-hazards" approach to disasters are emphasized. Major policy and regulatory issues of emergency management, including the role of the military in response to disaster operations, are examined.

Repeat for Credit
N

Typically Offered
Fall

GREEK 101 - Classical Greek I

Credits: 5

An introduction to the grammar, vocabulary, and structure of Attic Greek.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

GREEK 102 - Classical Greek II

Credits: 5

Develops reading and comprehension skills in the language of classical Athens, with a focus on further developing knowledge of grammar, vocabulary, and reading. Critical reading of texts in the original Greek.

Repeat for Credit
N

Typically Offered
Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

GREEK 301 - Intermediate Greek-Prose

Credits: 3

The reading of classical Greek prose at an intermediate level.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

GREEK 302 - Intermediate Greek-Poetry

Credits: 3

Intermediate readings in classical Greek poetry. Renewed focus on Greek grammar, style, and vocabulary. Introduces a new dialect of Greek. Critical reading of texts.

Repeat for Credit
N

Typically Offered
Spring

K-State 8

Aesthetic Interpretation
Global Issues and Perspectives

GRMN 002 - Orientation for Summer School Program

Credits: 0

Orientation for Summer School Program

Repeat for Credit
N

Typically Offered
Other

GRMN 101 - German I

Credits: 4

Develops basic language skills and cultural awareness to function in everyday situations in German-speaking communities, for students with little to no prior German experience. Conducted in German with practice in speaking, listening, reading, and writing.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

GRMN 102 - German II

Credits: 4

Continuation to the introduction of modern German. Practice of the spoken language, additional experience in reading and with a variety of additional media.

Repeat for Credit
N

Requisites
Recommended Prerequisite: GRMN 101 or equivalent.

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

GRMN 201 - German III

Credits: 3

Conclusion of the introduction to modern German. Continued practice of the spoken language, reading, and additional experience with a range of audio and visual media.

Repeat for Credit
N

Requisites
Recommended Prerequisite: GRMN 102 or equivalent.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

GRMN 222 - Elementary German Conversation IIIA

Credits: 2

Practice in beginning conversational German and review of grammar.

Note
Courses not open to fluent speakers of German. Course normally taken concurrently with German III.

Repeat for Credit
N

Requisites
Prerequisite: GRMN 122 or equivalent.

Typically Offered
Other

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

GRMN 301 - German IV

Credits: 3

Review of select points of German language structure accompanied by practice in conversation, speaking, reading, and writing, as well as additional experience with audio and visual media.

Repeat for Credit
N

Requisites
Recommended Prerequisite: GRMN 201 or equivalent.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

GRMN 398 - Intermediate Studies in German

Credits: 1-18

Offered only to participants in study abroad programs.

Repeat for Credit
Y

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

GRMN 500 - K-State in Berlin

Credits: 3

Ten-day, faculty-led study abroad program in Berlin and Potsdam. Focuses on German cultural memory through Berlin's architectural topography. Visits to, and discussions of, historical sites and buildings. Prior to departure, students attend meetings on the K-State campus and complete assignments to prepare for travel.

Repeat for Credit
N

Typically Offered
Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

GRMN 503 - German Literature in Translation

Credits: 3

Selected readings in English from such major German authors as Mann, Brecht, Hesse, Grass, and Kafka.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Historical Perspectives

GRMN 510 - German Film

Credits: 3

In English. Addresses various topics within a German historical-cultural context. Students will consider what makes cinema a distinct form of artistic expression.

Note
May be taken for major credit if assignments and discussion are completed in German. Normally taken concurrently with German IV.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Historical Perspectives

GRMN 515 - Topics in German Cultural Studies

Credits: 3

In English. Specific course content will vary by semester and instructor.

Repeat for Credit
Y

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Historical Perspectives

GRMN 520 - Readings in German

Credits: 3

Practice in reading a variety of literary, journalistic, and specialized texts.

Repeat for Credit
N

Requisites
Prerequisite: GRMN 223 or equivalent.

Typically Offered
Other

GRMN 521 - Introductory Topics in German Literature and Culture of the 18th and 19th century

Credits: 3

Topics courses constitute a sequence of introductory period studies covering the chronological range of German literature from about 1750 to the present. Within these historical periods, the specific course contents will vary by semester and instructor.

Repeat for Credit
Y

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Historical Perspectives

GRMN 522 - Introductory Topics in German Literature and Culture of the 20th and 21st century

Credits: 3

Topics courses constitute a sequence of introductory period studies covering the chronological range of German literature from about 1750 to the present. Within these historical periods, the specific course contents will vary by semester and instructor.

Repeat for Credit
Y

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Historical Perspectives

GRMN 523 - German Composition

Credits: 3

Course emphasizes writing and includes select grammar review.

Note
Course not open to students whose competence has been demonstrated in the language at this level.

Repeat for Credit
N

Requisites
Prerequisite: GRMN 223 or equivalent.

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

GRMN 524 - German for Reading Knowledge I

Credits: 3

The grammar and syntax of German and the reading of basic material selected from modern German texts. (This course is designed for students who need to be able to read German.)

Repeat for Credit
N

Typically Offered
Other

K-State 8
Global Issues and Perspectives

GRMN 525 - German for Reading Knowledge II

Credits: 3

Continued reading of material from modern German texts. (This course is designed for students who need to be able to read German.).

Repeat for Credit
N

Typically Offered
Other

K-State 8
Global Issues and Perspectives

GRMN 526 - Business German

Credits: 3

Advanced grammar necessary for adequate oral and written expression in international business and diplomatic situations, including specialized terminology, conversation and discussion and translation. Cultural aspects of business are also considered.

Repeat for Credit
N

Requisites
Prerequisite: GRMN 223 or equivalent.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

GRMN 527 - Advanced German Conversation

Credits: 3

Course emphasizes proficiency in oral expression and includes select grammar review. Course not open to students whose competency has been demonstrated in the language at this level.

Repeat for Credit
Y

Requisites
Prerequisite: GRMN 223 or equivalent.

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

GRMN 528 - Introductory Topics in German Language and Linguistics

Credits: 3

Introduction to topics in German Linguistics, with special emphasis on the connection between language structure and use or language structures and learning.

Repeat for Credit
Y

Requisites
Prerequisite: GRMN 301.
Corequisite: GRMN 523 or GRMN 527 or GRMN 526 should be taken before GRMN 528 or concurrently with GRMN 528.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Social Sciences

GRMN 529 - Special Studies in German

Credits: 1-18

Special Studies in German

Note
Consent of department head and instructor involved.

Repeat for Credit
Y

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

GRMN 530 - German Cultural Studies and History

Credits: 3

This course addresses cultural and historical topics not confined to a single period. Specific course content will vary by semester and instructor. It may emphasize cross-national subjects, the development of a theme or discourse over time, new perspectives from social, intellectual, or cultural studies, or non-traditional texts and topics.

Note
Each semester's offerings will be described more specifically in university and department publications before each enrollment period.

Repeat for Credit
N

Requisites
Prerequisite: One prior or concurrent 500-level German language class or equivalent.

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Historical Perspectives

GRMN 701 - Topics in Eighteenth Century German Literature and Culture

Credits: 3

Topics courses are designed for undergraduates and graduate students. These courses constitute a sequence of period studies covering the chronological ranges of German speaking literature and culture. Within these historical periods, the specific course contents will vary by semester and instructor. They may emphasize literary figures and movements, historical and cultural contexts, or different genres and forms within the period.

Note
Each semester's offerings will be specifically described before each enrollment period in university and department publications.

Repeat for Credit
Y

Requisites
Prerequisite: One prior 500-level German literature course.

Typically Offered
Fall, Spring, Summer

GRMN 702 - Topics in Nineteenth Century German Literature and Culture

Credits: 3

Topics courses are designed for undergraduates and graduate students. These courses constitute a sequence of period studies covering the chronological ranges of German speaking literature and culture. Within these historical periods, the specific course contents will vary by semester and instructor. They may emphasize literary figures and movements, historical and cultural contexts, or different genres and forms within the period.

Note
Each semester's offerings will be specifically described before each enrollment period in university and department publications.

Repeat for Credit
Y

Requisites
Prerequisite: One prior 500-level German literature course.

Typically Offered
Fall, Spring, Summer

GRMN 703 - Topics in Early Twentieth Century German Literature and Culture

Credits: 3

Topics courses are designed for undergraduates and graduate students. These courses constitute a sequence of period studies covering the chronological ranges of German speaking literature and culture. Within these historical periods, the specific course contents will vary by semester and instructor. They may emphasize literary figures and movements, historical and cultural contexts, or different genres and forms within the period.

Note
Each semester's offerings will be specifically described before each enrollment period in university and department publications.

Repeat for Credit
Y

Requisites
Prerequisite: One prior 500-level German literature course.

Typically Offered
Fall, Spring, Summer

GRMN 704 - Topics in German Literature and Culture since 1945

Credits: 3

Topics courses are designed for undergraduates and graduate students. These courses constitute a sequence of period studies covering the chronological ranges of German speaking literature and culture. Within these historical periods, the specific course contents will vary by semester and instructor. They may emphasize literary figures and movements, historical and cultural contexts, or different genres and forms within the period.

Note
Each semester's offerings will be specifically described before each enrollment period in university and department publications.

Repeat for Credit
N

Requisites
Prerequisite: One prior 500-level German literature course.

Typically Offered
Fall, Spring, Summer

GRMN 705 - Topics in Twentieth and Twenty-First Century German Literature and Culture

Credits: 3

Topics courses are designed for undergraduates and graduate students. These courses constitute a sequence of period studies covering the chronological ranges of German speaking literature and culture. Within these historical periods, the specific course contents will vary by semester and instructor. They may emphasize literary figures and movements, historical and cultural contexts, or different genres and forms within the period.

Note
Each semester's offerings will be specifically described before each enrollment period in university and department publications.

Repeat for Credit
Y

Requisites
Prerequisite: One prior 500-level German literature course.

Typically Offered
Fall, Spring, Summer

GRMN 720 - Open Topics Seminar in German Language and Linguistics

Credits: 3

Addresses topics in German Linguistics. It may emphasize a specific area of linguistics, a specific research approach, or the connection between language and society.

Repeat for Credit
Y

Requisites
Prerequisite: At least one GRMN 500-level course preferably GRMN 528.

Typically Offered
Fall, Spring

GRMN 728 - History of the German Language

Credits: 3

A study of the development of the sounds, forms and syntax of standard German.

Repeat for Credit
N

Typically Offered
Other

GRMN 729 - Open Topics Seminar in German Literature and Culture

Credits: 3

Open Topics courses are designed for undergraduates and graduate students. Course addresses topics not confined to a single period in a national literature. Specific course content will vary by semester and instructor. It my emphasize cross-national subjects, literary or cultural criticism or theory, works of one or a pair of related authors, the development of a theme or genre over time, new perspectives from social, intellectual, or cultural studies, or non-traditional texts and topics.

Repeat for Credit
Y

Requisites
Prerequisite: One prior 500-level German literature course.

Typically Offered
Other

GRMN 731 - Advanced German: Speaking and Writing

Credits: 3

Course combines practice in speaking, writing, and reading, and select advanced grammar review.

Note
Course not open to students whose competence has been demonstrated in the language at this level.

Repeat for Credit
Y

Requisites
Prerequisite: GRMN 523 and GRMN 527 or equivalent.

Typically Offered
Other

GRMN 740 - German Culture and Literature in Second-Language Learning

Credits: 3

Analysis and interpretation of cultural and literary text from German-speaking countries, with emphasis on the development of interpretive skills and materials, and their application to the German curriculum at all levels.

Repeat for Credit
Y

Requisites
Prerequisite: One prior 500-level German course.

Typically Offered
Other

GRMN 799 - Problems in Modern Languages

Credits: 1-18

Problems in Modern Languages

Repeat for Credit
Y

Typically Offered
Other

GRMN 898 - Master's Report

Credits: 1-2

A written report of either research or problem work on a topic in the major field.

Note
Consult of major professor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GRMN 899 - Research in Modern Languages

Credits: 1-18

Research in Modern Languages

Repeat for Credit
Y

Typically Offered
Other

GRSC 100 - Foundations in Grain Science and Industry

Credits: 1

An introduction to grain science and industry; general freshman orientation; policies; student organizations; study skills and time management; departmental degree programs, and careers.

Note
Required of all Freshmen majoring in Bakery Science and Management, Feed Science and Management, and Milling Science and Management.

Repeat for Credit
N

Requisites
Prerequisite: Required of all freshmen in Grain Science and Industry.

Typically Offered
Fall

GRSC 101 - Fundamentals of Grain Processing

Credits: 3

This is an introductory course to grains and their processing/utilization in food and non-food products.

Note
Intended for non-majors only.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Global Issues and Perspectives

GRSC 112 - Feed and Pet Food Experience

Credits: 1

Designed to provide a hands-on experience in the feed and pet food processes. The student will learn about the safety programs, quality and standard operating procedures used in the animal feed and pet food industries.

Note
Three hours lab per week.

Repeat for Credit
N

Typically Offered
Spring

GRSC 150 - Principles of Milling

Credits: 2

Introduction to grain and feed milling processes.

Note
Two hours lecture a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: MATH 100

Typically Offered
Fall, Spring

GRSC 151 - Principles of Milling Laboratory

Credits: 1

A laboratory course to accompany Principles of Milling (GRSC 150). Laboratory exercises in grain and feed milling processes.

Note
Three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: GRSC 150 or concurrent enrollment. BSM, FSM and MSM majors have to take GRSC 150 and GRSC 151 concurrently.

Typically Offered
Fall, Spring

GRSC 200 - Topics in Grain Science

Credits: 0-3

Special topics, studies, and activities in grain science not completely taught in other courses.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GRSC 201 - Fundamental Baking Calculations

Credits: 1

The course is designed to provide students with an understanding of the type of mathematical calculations used in the baking industry. It will cover ratio and proportion, true percent, baker's percent, how to convert a straight dough to a sponge and dough, proper water temperature calculations, specific gravity as it applies to cake making, density, specific volume as it applies to bread making, flour blending calculations in order to achieve a specific flour protein content, flour calculations for proper baking performance and purchasing, major ingredient substitutions, pie filling calculations, parts per million calculations, and baking powder neutralization values.

Note
This course will be offered as a 20-module distance education course.

Repeat for Credit
N

Requisites
Prerequisite: This class has no prerequisites, and can be taken by an incoming freshman.

Typically Offered
Fall, Spring, Summer

GRSC 210 - CAD Flow Sheets for Grain Processes

Credits: 3

The course is designed to teach students the basic concepts of professional 2D drawing designs and drafting using AutoCAD. By the end of the semester, the students will be able to use AutoCAD for preparing process flow drawings and interpret a grain processing flow.

Note
Two three-hour lecture/demonstrations/studio per week.

Repeat for Credit
N

Requisites
Prerequisite: GRSC 150 or consent of instructor.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

GRSC 301 - Baking Fundamentals: The Art and Science of Baking

Credits: 3

This introductory course explores the art and science of baking. Students will discover the basic scientific principles that explain how both yeast and chemically leavened bakery products are made. They will learn the products, tools, techniques and aesthetics of making breads, cakes, sweet goods, doughnuts, and cookies.

Note
Two (2) hour classes a week (one lecture the other discussion of products made in lab that week)
One (1) three-hour lab a week (scheduled in between lecture hours)

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

GRSC 310 - Materials Handling

Credits: 2

The course is designed to introduce students to how materials including grains, ingredients, mixes and finished products are physically moved and handled in the receiving, storage, formulation, production and shipping of grain related products.

Note
Two two-hour studio sessions incorporating lecture and lab elements.

Repeat for Credit
N

Requisites
Prerequisite: GRSC 150 and GRSC 210.

Recommended prerequisites: PHYS 113, MATH 205.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

GRSC 312 - Introduction to Feed and Pet Food Processing

Credits: 3

Introduction to animal feed and pet food manufacturing, including principles of conveying, grinding, mixing, pelleting, and other processing techniques, the formulation of concentrates, premixes, and rations.

Note
Three hours lecture per week.

Repeat for Credit
N

Typically Offered
Spring

GRSC 313 - Intro to Feed and Pet Food Processing Lab

Credits: 1

This course provides students with hands-on experience in the fundamental processes used in feed and pet food manufacturing. Through laboratory exercises, students will explore key operations such as ingredient preparation, grinding, mixing, pelleting, canning, baking, freeze drying, extrusion, and packaging. Emphasis is placed on understanding equipment operation, safety protocols, and troubleshooting in a production setting. This applied learning approach reinforces theoretical knowledge from lecture-based courses and prepares students with the technical skills necessary for careers in the feed and pet food industry.

Repeat for Credit
N

Requisites
Pre-Requisite or Co-Requisite: GRSC 312

Typically Offered
Fall-Odd Years

GRSC 405 - Grain Analysis Techniques

Credits: 2

Principles and instrumentation available for testing cereal and other grains and their food and feed products.

Note
Two hours lecture a week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: CHEM 230, BIOCH 265 or CHM 350 and CHM 351, and STAT 225.

Typically Offered
Spring

GRSC 491 - Faculty-Led Study Abroad

Credits: 1-3

Seminar and travel course designed to prepare students before the experience and for students to analyze, critique, and report their experiences of an international experience associated with study tours or short courses.

Note
Consent of instructor for undergraduates, consent of major professor for graduate students

Repeat for Credit

N

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives

GRSC 499 - Undergraduate Research in Grain Science

Credits: 0-3

This course is an opportunity to earn college credit while conducting an independent research project. The overall objective of the course is to introduce students to scientific research methods and procedures in grain science and related areas through hands-on experience and individual mentoring. Students will learn how to design, conduct, analyze, and present scientific research.

Note
Variable credit. Students are expected to invest at least 3 hours of effort per week for every hour of credit enrolled. A GSI faculty must agree to serve as research advisor/mentor prior to enrollment. A list of participating faculty and project areas will be available.

Repeat for Credit
Y

Requisites
Prerequisites: Sophomore, junior or senior standing in BSM, FSM, or MSM; minimum GPA of 2.5/4.00.

Typically Offered
Fall, Spring, Summer

GRSC 500 - Milling Science I

Credits: 2

Principles and practices of wheat flour milling with full-scale equipment including grain storage, blending, cleaning, conditioning plant, and a modern pneumatic flour mill, with instrumentation and automation, etc.

Note
Two hours lecture.

Repeat for Credit
N

Requisites
Prerequisite: GRSC 150 and GRSC 210, or consent of instructor.
Recommended prerequisites: CHM 230, PHYS 113, MATH 205, and BIOL 255.

Typically Offered
Spring

GRSC 501 - Milling Science I Laboratory

Credits: 2

A laboratory course to accompany Milling Science I (GRSC 500). Laboratory exercises in wheat flour milling with full-scale equipment including grain storage, blending, cleaning, conditioning plant, and a modern pneumatic flour mill, with instrumentation and automation.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: GRSC 500 or concurrent enrollment.

MSM majors have to take GRSC 500 and GRSC 501 concurrently.

Typically Offered
Spring

GRSC 502 - Milling Science II

Credits: 2

Advanced study of the entire gradual reduction system of wheat flour milling and the many unit process systems that constitute the milling system. The theory and practice of mill control are studied in detail. Processing of other cereal grains and oil seeds are covered as well as general mill management.

Note
Two one-hour lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: GRSC 210 and GRSC 500 and GRSC 501, or

consent of instructor.

Recommended prerequisite: STAT 225 and PHYS 113 and MATH 205.

Typically Offered
Fall

GRSC 503 - Milling Science II Laboratory

Credits: 2

The processes for milling other grains such as corn, oats, sorghum, different classes of wheat, and rye are studied in the laboratory and by practice on small scale milling units. Concepts of material handling properties of grain products and material handling equipment in dry milling operations will be presented. Concepts of statistical process control and spread sheet modeling in the decision making process will be introduced.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: GRSC 502 or concurrent enrollment or consent of instructor.

Typically Offered
Fall

GRSC 530 - Management Applications in the Grain Processing Industries

Credits: 3

This course deals with management principles, leadership concepts and their application to the grain, fed and food industries. This capstone experience uses business scenarios, team projects and knowledge management to expand student's ability to solve problems, impact key business challenges and manage complex issues. Special emphasis is placed on organization dynamics, people management, key business metrics, common operational problems and ethics in business.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisites: Senior standing, GRSC 502 or GRSC 612 or GRSC 637.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

GRSC 540 - Process Calculations in Food Systems

Credits: 3

Application of grain/food industry analytical processing concepts including mass and energy balances, fluid flow, heat transfer, dehydration, evaporation.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 205 or MATH 220. Recommended prerequisite: PHYS 113 or PHYS 115, CHM 210.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

GRSC 541 - Process Calculations in Food Systems Laboratory

Credits: 1

Virtual laboratory experiments supplementing GRSC 540-Process Calculations in Food Systems. Simulations will be used to conduct wide range of virtual experiments representing major food processes.

Note
One-three hour lab per week.

Repeat for Credit

N

Requisites
Prerequisite: GRSC 540 or concurrent enrollment.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

GRSC 545 - Grain Drying, Storage, Aeration and Pest Management

Credits: 3

Introduction to the scientific principles and engineering practices required for the successful management of post-harvest quality grains.

Note
This course is not available to on-campus students. This course is offered as a distance education course only, and it is only available to distance education students.

Repeat for Credit
N

Requisites
Recommended Foundation Course: GRSC 310.

Typically Offered
Fall, Spring, Summer

GRSC 555 - Cereal Food Plant Design

Credits: 3

This course deals with principles of modern flour mill design, feasibility and equipment selection for plant improvements and new plant construction. It covers the steps of developing adequate process flow diagrams based on the specific production needs, constraints and preferences. Emphasis is placed on the effects of design on plant operating efficiency, finished product quality, and construction costs.

Note
Three-one hour lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing and GRSC 500.

Typically Offered
Spring

GRSC 556 - Pneumatic Conveying of Dry Solids

Credits: 2

The course is designed to introduce students to a comprehensive knowledge of the design, operation and capabilities of pneumatic conveying systems for transportation of dry, powdered and granular materials. The student will study the components of pneumatic conveying systems, the requirements for designing efficient and reliable pneumatic conveying systems, and troubleshooting existing systems.

Note
Two two-hour studio sessions incorporating lecture and lab elements.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing, GRSC 310, GRSC 500 and GRSC 501, PHYS 113 or PHYS 213, MATH 205, or consent of instructor.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

GRSC 560 - Electricity and Industrial Power Distribution

Credits: 3

Major emphasis will be given to application of electricity to machinery for grain processing and electrical code.

Note
Two hours lecture and two hours lab per week.

Repeat for Credit
N

Requisites

Prerequisite: GRSC 500 or GRSC 510 or GRSC 635 or consent of instructor.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

GRSC 580 - Milling of Specialty Grains

Credits: 2

This is a problem based learning course which aims to increase students' knowledge of flour milling and specialty grain milling. During the semester students develop critical thinking and problem-solving skills needed to troubleshoot real-life issues related to processing, quality assurance, HSE (Health, Safety, and Environment), and finished product quality. Students are expected to analyze their problems and develop the skills needed to effectively communicate their findings during group presentations.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: GRSC 502, or consent of instructor.

Typically Offered
Spring

GRSC 590 - Grain Science Problems

Credits: 1-3

Study in an area pertinent to grain processing and utilization.

Note
For undergraduate students. Instructor permission.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GRSC 591 - Internship in Grain Science

Credits: 1

A practical application of feed and food manufacturing technology during an eight-week summer internship with an active commercial feed and food manufacturing company. The course will stress applied aspects of commercial feed and food manufacturing, which can include, but not be limited to, plant operations, maintenance, personnel and labor relations, business management, warehousing, ingredient procurement, quality assurance, and fleet management.

Repeat for Credit
N

Requisites
Recommended Foundation Course: GRSC 500, GRSC 510 or GRSC 635.

Typically Offered
Fall

GRSC 592 - Extended Internship in Grain Science

Credits: 1

In-depth work-study experiences for up to 6 months on commercial feed and food manufacturing, which can include, but not limited to, plant operations, maintenance, personnel and labor relations, business management, warehousing, ingredient procurement, quality assurance, and fleet management.

Repeat for Credit
N

Requisites
Recommended Foundation Course: GRSC 500, 510 or 635.

Typically Offered
Fall, Spring

GRSC 600 - Practicum in Bakery Technology I

Credits: 1

Lectures and hands-on laboratory experience with commercial production scale baking equipment for breads and rolls, cookies and crackers, and cakes and sweet doughs.

Repeat for Credit
N

Requisites
Prerequisite: Upper-class bakery science and management majors or permission of the instructor. Recommended Foundation Courses: GRSC 635 and GRSC 636.

Typically Offered
Other

GRSC 601 - Practicum in Bakery Technology II

Credits: 1

Lectures and hands-on laboratory experience with commercial production scale baking equipment for breads and rolls, cookies and crackers, and cakes and sweet doughs.

Repeat for Credit
Y

Requisites
Prerequisite: Upper-class bakery science and management majors or permission of the instructor. Recommended Foundation Courses: GRSC 635 and GRSC 636.

Typically Offered
Other

GRSC 602 - Cereal Science

Credits: 3

The characteristics of cereals, legumes, their components and their processing to foods.

Note
Three hours lecture a week. Online offering of this course is not open to the undergraduate students majoring in BSM, FSM, and MSM.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 265 or CHM 350 and CHM 351.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

GRSC 612 - Advanced Feed Technology II and Laboratory

Credits: 3

Advanced study of engineering principles applicable to flour and feed plant operations, equipment selection, and processing systems.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: GRSC 312, PHYS 113 and STAT 225

Typically Offered
Fall

GRSC 615 - Animal Food Safety

Credits: 1

An introduction to the animal food safety regulations in the Food Safety Modernization Act.

Note
One two-hour lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: GRSC 312.

Typically Offered
Fall

GRSC 620 - Extrusion Processing in the Food and Feed Industries

Credits: 4

The course is designed to provide the student with an understanding of extrusion technology and the ability to apply it to product development and production through a

"hands-on" approach. Major emphasis is on laboratory exercises in which students will operate pilot scale extrusion equipment to produce readily-recognizable commercial products such as cheese curls, breakfast cereals, pasta, pet food, etc. Emphasis will also be placed on process and product development, analysis, and problem solving techniques.

Note
Three hours lecture plus one three-hour lab a week.

Repeat for Credit
N

Requisites
Recommended prerequisite: GRSC 602.

Typically Offered
Fall

GRSC 625 - Flour and Dough Testing

Credits: 3

The focus of Flour and Dough testing is the analytical tests used to determine attributes of different flours. This course will provide a broad understanding of standard analytical methods and procedures commonly used in flour quality testing. This course will discuss how analyses are done as well as how to evaluate, interpret, and use the results.

Note
Two (2) one-hour lectures and one (1) lab session per week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: GRSC 602.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

GRSC 635 - Baking Science I

Credits: 2

Introduction to chemical and physical properties of flour and other principal ingredients used in production of yeast-leavened bakery foods. Study of major processing methods for making yeasted doughs such as breads, sweet goods, frozen dough, and partially baked goods. Examination of ingredient specifications role of quality control, keeping properties of bread products, and nutritional attributes of various types of breads.

Note
Two hour lecture a week.
Online offering of this course is not open to the undergraduate students majoring in BSM, FSM, and MSM.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 265 or CHM 350 and CHM 351.
Recommended prerequisites: PHYS 113, MATH 205, and BIOL 255.

Typically Offered
Fall

GRSC 636 - Baking Science I Laboratory

Credits: 2

A laboratory course to accompany Baking Science I (GRSC 635). Laboratory exercises in theory and production of yeast-leavened baked products.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: GRSC 635 or concurrent enrollment.

Typically Offered
Fall

GRSC 637 - Baking Science II

Credits: 3

Course includes study of physical, chemical, and functional properties of ingredients and processes used in production of bakery products, including cakes, cookies, doughnuts, breads and related products. Shelf-life control and packaging of baked products is also discussed. Total

quality programs, specification programs and management of distribution and purchasing systems will also be included in lectures.

Note
Three hours of lecture a week.

Repeat for Credit
N

Requisites
Recommended Foudnation Course: GRSC 635.

Typically Offered
Spring

GRSC 638 - Baking Science II Laboratory

Credits: 1

A laboratory course to accompany Baking Science II (GRSC 637). Exercises and experiments in production of chemically-leavened and yeast-leavened bakery foods including various cakes, cookies, doughnuts, bagels, icings, and fillings.

Note
Three hours of lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: GRSC 637 or concurrent enrollment.

Typically Offered
Spring

GRSC 645 - Pet Food Processing

Credits: 3

The course is designed to provide students with an understanding of pet foods, including food products meant for dogs, cats, pet rodents, pet snakes, ornamental fish, exotic and captive wild animals, and the various processing technologies that are deployed for their production. Extrusion, baking, canning, and injection molding technologies will be covered. Other important aspects of pet food production, such as ingredient handling and compounding, quality control, HACCP and sanitation, and packaging will also be discussed.

Repeat for Credit
N

Requisites
Recommended Foundation Course: CHM 230, PHYS 114, ASI 318 or FNDH 132, Junior standing.

Typically Offered
Spring

GRSC 650 - Nutritional Impacts of Processing

Credits: 3

This course explores processing-induced changes in composition and utilization of ingredients and raw materials for both animal and human foods. Discussion of benefits, limitations, and challenges resulting from processing various ingredients and compound foods, along with alternatives and food additives commonly used in industrial feed and food production to augment, retard, or prevent negative effects.

Note
3 hour lectures per week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 318 or FNDH 132, GRSC 312, junior standing.

Typically Offered
Spring

GRSC 651 - Food and Feed Product Protection

Credits: 2

Sanitation in relation to processing, handling, and storage of human and animal foods. Emphasis on contaminants, control of causative agents, equipment and plant design, applicable laws and regulations.

Note
Two hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing and BIOL 255.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Global Issues and Perspectives

GRSC 655 - Feed Mill Plant Design

Credits: 2

This course deals with principles of modern design, feasibility, and equipment selection for new feed mills. Emphasis is placed on the effects of logistics, ingredient availability, operating efficiency, and finished product quality.

Note
Two hour lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing and GRSC 510.

Typically Offered
Spring

GRSC 661 - Qualities of Feed Ingredients

Credits: 3

The course provides an integrated overview of the physical, biological, chemical characteristics of common feed ingredients. Quality control and evaluation of ingredients and complete feed is emphasized to ensure the productions of safe feed/safe food.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: GRSC 312

Typically Offered
Spring

GRSC 670 - Bakery Layout and Management

Credits: 2

Provides the practical knowledge and skills necessary to successfully lead and manage a bakery operation. Current problems in the baking industry are discussed to improve production efficiency, performance, capability, profitability, and quality in the context of a bakery operation. This course utilizes team projects to plan and design a bakery with consideration of market demands, product selection, and feasibility.

Note
Two (2) one-hour lectures per week.

Repeat for Credit
N

Requisites
Prerequisite: GRSC 636.

Typically Offered
Spring

GRSC 712 - Vibrational Spectroscopic Analysis and Chemometrics

Credits: 1-2

Infrared and particularly modern near-infrared spectroscopic analysis of foods, natural products, and synthetic substances is accomplished with direct sampling and the use of multivariate statistics. This course is intended to enable the student to understand the principles and successfully apply this technology to practical analytical problems with emphasis upon food. Method development will be taught using specific analytes in selected products. Theoretical background, working of modern instrumentation and associated software is presented in support of achieving practical competence.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: BIOCH 265 or CHM 350 and CHM 351 or CHM 371.

Typically Offered
Spring

GRSC 713 - Contemporary Chromatographic Analysis of Food

Credits: 1

High performance liquid chromatography (HPLC) is the primary focus of this course. This will be supported by including treatment of topics in contemporary gas chromatography and supercritical fluid chromatography and extraction. Optimizing chromatographic conditions through knowledge of the column chemistry will be covered in addition to detector options, instrumentation, and sample preparation.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: BIOCH 265 or CHM 350 and CHM 351 or CHM 371.

Typically Offered
Spring

GRSC 740 - Biomaterials Processing

Credits: 3

This course is designed for students who are interested in plant biomaterials processing. This course will teach technologies of biobased materials processing including starch extraction (wet milling), plant oil extraction and refining, plant protein extraction and processing, cellulose processing, biofuel production, chemicals bioconversion, and drying technologies of biomaterials.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: BAE 545 or GRSC 602.

Typically Offered
Fall-Even Years

Cross-listed
BAE 740

GRSC 745 - Fundamentals of Bioprocessing

Credits: 3

This course is designed for students who desire a clear understanding of bioprocessing principles as applied to the emerging bio-based industry. This course covers the fundamentals of mass and energy balances, fluid dynamics, heat and mass transfer, as applied to bioprocessing. The microbial growth, kinetics and fermenter operation will be covered in detail. Fundamentals of downstream operation as applicable to bioprocessing will be covered in this course. Industrial bioprocessing case studies that involve the integration of the course contents will be discussed.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: MATH 205 or MATH 220, PHYS 113 or PHYS 115, and BIOCH 265 or CHM 350 and CHM 351 or CHM 210.

Typically Offered
Spring

GRSC 750 - Pet Food Formulation for Commercial Production

Credits: 1

Students completing this course will become proficient at formulating pet foods and have a working knowledge of ingredients, processes, and the software necessary to create new products, revise existing formulas, and perform business and production analyses.

Note
The course will be offered as a January intersession short-course on-site at the IGP-Institute.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: GRSC 645, ASI 320, ASI 677.

Typically Offered
Intersession

GRSC 790 - Grain Science Problem

Credits: 1-18

Graduate study in an area pertinent to grain processing and utilization.

Note
For graduate students. Consent of department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GRSC 810 - Particle Technology for Solids Handling and Processing

Credits: 3

Overview of particle technology with an emphasis on practical applications in milling and grain based operations. Conveying, storage, size reduction and separation are the important unit operations of grain processing industries that involve particle sizes ranging from a fraction of a micron to a few millimeters. Subjects include size and shape characterization, size distribution and measurement, characteristic dimensions, density, and their theories governing the behavior of the particles under different conditions.

Note
Two hours lecture and three hours lab each week.

Repeat for Credit
N

Typically Offered
Spring

GRSC 815 - Fundamentals of Processing Grains for Food

Credits: 3

Unit processes in the receiving and storing of grains; grinding, sifting, mixing, separation, conveying, cooling, drying, etc. This course is not open to undergraduate majors in the department.

Note
Two hours lecture and three hours laboratory a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: PHYS 213 or equivalent.

Typically Offered
Fall-Odd Years

GRSC 820 - Advanced Extrusion Processing

Credits: 4

Advanced study of the engineering principles of extrusion forming and cooking with a detailed focus on scale-up. A variety of extrusion systems will be studied in lab with associated group projects.

Note
Three hours lecture and three hrs. laboratory a week.

Repeat for Credit
N

Requisites
Recommended Prerequisite: GRSC 620 or previous extrusion experience.

Typically Offered
Fall-Odd Years

GRSC 825 - Novel Uses of Biopolymers

Credits: 2

Teach existing value-added technology of cereal polymers, and explore new processes and utilization in non-traditional food/feed and in non-food/feed.

Note
Two hours lecture a week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: BIOCH 521 and PHYS 115.

Typically Offered
Fall

GRSC 830 - Physical Properties of Cereal Polymers

Credits: 3

Physical properties of cereal polymers include physical attributes, rheological, mechanical, thermal, electrical, and optical properties. Thermal analysis methods will be taught. Thermal analyses include glass transition, gelatinization, denaturation, and thermal softening and settings of cereal polymers. Rheological properties associated with these thermal transitions will be discussed. Applications of thermal analysis in cereal chemistry, processing, and product quality control will be discussed.

Note
Two hours lecture and discussion, and two hour lab.

Repeat for Credit
N

Requisites
Recommended Foundation Course: GRSC 602.

Typically Offered
Other

GRSC 840 - Advanced Grain Processing Technology

Credits: 3

An overview of unit operations used in the grain/food processing industry will be given. Specific applications of the unit operations will be covered in detail for dry and wet milling (wheat/corn/sorghum), masa manufacturing, oilseed processing, rice milling, and packaging systems. A term project, which will include an applied research component will be developed by each student.

Note
Three hours of lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: Graduate Student Standing.

Typically Offered
Spring

GRSC 850 - Grain Protein Chemistry & Technology

Credits: 3

This graduate course will address the structure, chemistry, properties, and applications of proteins. The primary focus will be on plant food proteins (cereals, pulses, and oilseeds). Animal (milk, egg, meat) and microorganism-derived (mycoproteins, algae) proteins will also be moderately covered to provide students with a comprehensive understanding of the subject.

Note
Three-hour lecture a week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: CHM 531, 532, and BIOCH 521 or equivalent.

Typically Offered
Fall-Odd Years

GRSC 891 - Study Abroad Experience in Grain Science

Credits: 0-3

Travel seminar coruse designed to prepare graduate students before their international study abroad experience and analyze, critique, and report about their faculty-led study tours or short courses. The academic topics will vary with each international activity.

Note
Consent of course instructor.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

GRSC 899 - Research in Grain Science

Credits: 1-18

Basis for the M.S. Thesis.

Note

Consent of staff.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GRSC 900 - Professional Development in Grain Science

Credits: 1

A team-taught course that provides students with skills and practices needed to succeed in graduate school and future academic or professional careers.

Note
One hour lecture a week. Required of all newly enrolled graduate students in grain science during their first year.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall

GRSC 901 - Starch Chemistry and Technology

Credits: 3

Chemical and physical properties of cereal and legume starches. Isolation, structure, assay methods, and properties. Methods of modifying starches for industrial use, including chemical, physical, and enzymic modification.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: BIOCH 521, GRSC 602, PhD students, or consent of instructor.

Typically Offered
Other

GRSC 902 - Carbohydrates in Food

Credits: 3

Structure and properties of food carbohydrates, including sugars, oligosaccharides, and polysaccharides, and methods of their modification and analysis.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: CHM 350 or BIOCH 521, PhD students, or consent of instructor.

Typically Offered
Spring-Odd Years

GRSC 905 - Enzyme and Bioprocessing Applications

Credits: 3

The course explores the applications of enzymes and microbial cultures in the bioprocessing industry, including food, feed, industrial chemicals and biofuels; and major microbial pathways for product synthesis including a clear understanding of enzyme and microbial kinetics at an advanced level.

Note
Three one hour lectures per week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: GRSC 820 or GRSC 740/BAE 740 or BIOCH 755.

Typically Offered
Fall

GRSC 910 - Topics in Grain Science

Credits: 1-18

Discussions and lectures on important areas and contributions in the field of grain science not currently covered in present courses.

Note
Consent of instructor.

Repeat for Credit

Y

Typically Offered
Fall, Spring, Summer

GRSC 915 - Advanced Cereal Chemistry

Credits: 3

The chemistry of cereal components at the molecular level. The role and interactions of the various constituents, their functionality in producing an end product, and their influence on nutritional properties.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: BIOCH 521 and BIOCH 522.

Typically Offered
Fall

GRSC 920 - Grain Science Graduate Seminar

Credits: 1

Weekly evaluation of the scientific literature and the reasoning underlying the selection of research problems, the formulation and testing of hypotheses, and the evaluation and presentation of results. Discussion of research and technical problems in the discipline.

Note
One-hour lecture per week.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing or consent of instructor

Typically Offered
Fall, Spring

GRSC 999 - Research in Grain Science

Credits: 1-18

Basis for Ph.D. Dissertation.

Note
Consent of staff.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

GWSS 105 - Introduction to Gender, Women, and Sexuality Studies

Credits: 3

An interdisciplinary analysis of personal experiences and social and political institutions as they shape and are shaped by the intersections of gender, race, class, sex, sexuality, ethnicity, nation, citizenship, and ability on local, national, and global levels. Topics include the roles of biology and social construction in shaping gender and sexuality, sources of structural inequities; and feminist, queer, trans, anti-racist, and anti-colonial activisms.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

GWSS 220 - Climate Justice Movements

Credits: 3

Explores climate justice movements and concepts in the US and globally. Particular attention is placed on the ways that gender, race, class, and global location intersect and how different social actors (individuals, activist groups, governments, nations) define climate change and how climate justice activist movements fight for change. Through discussion and critical analysis, will explore a variety of topics and concepts including global climate change, environmental and climate justice, growth and degrowth, colonization and decolonization, and human and nature rights among others. By examining these, we can

come to understand how climate justice is a political position, series of movements, and hope for the future.

Repeat for Credit
N

Typically Offered
Fall-Even Years

K-State Core
5 Social and Behavioral Sciences

GWSS 230 - Intersectionality and Health Justice

Credits: 3

Examines intersections of gender, race, class, Indigeneity, nation, and sexuality in critiques, activisms, and histories of medicine, public health, and health sciences. Joins thinking in racial, environmental, disability, and reproductive justices with queer and trans studies in exploring questions and ethics of healthcare.

Repeat for Credit
N

Typically Offered
Spring-Odd Years

K-State Core
5 Social and Behavioral Sciences

GWSS 240 - Activism and Social Justice

Credits: 3

Examines ethical dilemmas surrounding activism, what constitutes social justice, and civil rights justice processes. Centers Indigenous Studies, Queer Studies, Feminist Studies, American Studies, and Social Transformation Studies perspectives on ethics, activism, and justice.

Repeat for Credit
N

Typically Offered
Spring-Even Years

K-State Core
5 Social and Behavioral Sciences

GWSS 275 - Gender, Race, and Sex in Science Fiction

Credits: 3

Explores the ways that gender, sex, sexuality, race, and class intersect in science fiction, including Afrofuturism, Asian futurism, Chicanafuturism, and Indigenous futurism. Examines how the ways that we imagine the future and the alien offer insight into contemporary concerns about gender, sexuality, race and racism, colonialism, imperialism, and justice.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
5 Social and Behavioral Sciences

K-State 8
Social Sciences

GWSS 300 - Selected Studies of Gender, Women, and Sexuality Studies

Credits: 3

Specific course content will vary by semester and instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.

GWSS 305 - Engaging Gender, Women, and Sexuality Studies

Credits: 3

An examination of the origins and current status of the Gender, Women, and Sexuality Studies field, provides core concepts and research methodologies.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

GWSS 325 - Queer Studies: Concepts, History, and Politics

Credits: 3

Examines the origins of Queer Studies and introduces core concepts, foundational histories, and critical frameworks that will prepare students for further study.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Historical Perspectives
Human Diversity within the U.S.

GWSS 335 - Transgender Studies

Credits: 3

Explores the history of and current debates in the field of transgender studies. Examines the roles of race, class, nation, colonialism, and (dis)ability in understanding transgender identities and politics.

Repeat for Credit
N

Typically Offered
Intersession

K-State 8
Social Sciences

GWSS 350 - Gender in American Film

Credits: 3

This course examines depictions of gender, race/ethnicity, class, and sexuality in American film. It focuses on the way in which images in mainstream Hollywood films reinforce, normalize and/or question power, power relations, and stereotypes.

Note
This is a lecture and recitation course.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

GWSS 365 - Reproductive Rights and Wrongs

Credits: 3

Explores contemporary reproductive politics within the historical context of struggles for reproductive justice in the U.S.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Historical Perspectives

GWSS 375 - Disability Justice and Gender

Credits: 3

Introduces a disability justice framework and explores how ableism, as a social system, intersects with other systems of inequality. Examines disability from intersectional perspectives that center feminist, queer, and trans analyses of disability, particularly those of U.S. people of color. Explores how disability has been constructed, regulated, and disciplined by structures and institutions as well as met with resistance by individuals and social movements.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Ethical Reasoning and Responsibility

GWSS 380 - Global Struggles for Feminist, Queer, and Trans Justice

Credits: 3

Explores how justice struggles are connected. Examines how colonialism and transnational globalization intersect with gender, sexuality, class, and nation, as well as the effects of colonization, migration, democratization, and capitalist and socialist development strategies on women and queer people in "Third," "Second," "First," and Native Nations.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Social Sciences

GWSS 405 - Resistance and Movements for Social Change

Credits: 3

Examines Women's Resistance and movements against gender violence and discrimination in the context of colonialism, globalization, war, militarism, and occupation.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Historical Perspectives

GWSS 410 - Feminist Thought

Credits: 3

Survey of a variety of feminist analyses of society, culture, and work, as well as visions for social change. The historical development of key feminist theories, contemporary debates, and multicultural and global feminism will be analyzed.

Repeat for Credit
N

Requisites
Prerequisite: GWSS 105 or GWSS 305.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Historical Perspectives

GWSS 435 - Race/Sex/Science

Credits: 3

Examines the ways that race, gender, sex, sexuality, nation, ability, colonialism, and class shape and are shaped by science and technology. Focus is on U.S,

Repeat for Credit
N

Typically Offered
Intersession

K-State 8
Social Sciences

GWSS 450 - The Stories of a Young Girl

Credits: 3

An interdisciplinary examination of female adolescence, focusing in particular on the way it is depicted in literature.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

GWSS 460 - Coming Out and Sexual Identity

Credits: 3

Examines how narratives of coming out and the organization of National Coming Out Day impact personal freedom, policies and attitudes toward sexual orientation.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

GWSS 480 - Seminar in Gender, Environment and Justice

Credits: 3

Examines the philosophical, historical, and material aspects of the human/nature relationships and the intersection of gender, race/ethnicity, class and global location with environment and environmental justice.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

GWSS 499 - Honors Project

Credits: 3

Honors Project

Note
Open only to Arts & Sciences students who are active members of the University Honors Program.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Human Diversity within the U.S.

GWSS 500 - Topics in Gender, Women, and Sexuality Studies

Credits: 1-3

Topics vary.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.

GWSS 505 - Independent Study in Gender, Women, and Sexuality Studies

Credits: 1-3

Independent, supervised study of a topic related to Queer Studies or Gender, Women, and Sexuality Studies.

Repeat for Credit
Y

Requisites
Prerequisite: GWSS 105 or GWSS 305.

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.

GWSS 510 - Research Methods in Gender, Women, and Sexuality Studies

Credits: 3

An advanced course in practices of research in Gender, Women, and Sexuality Studies, with attention to what distinguishes interdisciplinary, feminist research from traditional, disciplinary practices. Methods explored may include survey, interview, oral history, ethnography, hermeneutics, content analysis, case study, experimental, and action research.

Repeat for Credit
N

Requisites
Prerequisite: GWSS 410.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

GWSS 550 - Gender and Popular Culture

Credits: 3

Using an intersectional lens, this course explores gender, race, class, global location, and sexuality in the production, portrayals, and consumption of popular culture. The popular culture forms explored in this course may include fiction, film, television, music, magazines, advertising, and/or material culture.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Social Sciences

GWSS 560 - Intersections of Violence and Resistance

Credits: 3

An examination of violence, and anti-violence justice organizing as the product of race, capitalism, gender, sexuality, nation, empire, and settler colonialism. Centers violence against women, gender violence, and the violence of the normative.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

GWSS 570 - Gender and Food Justice

Credits: 3

Uses the feminist concept of intersectionality to explore the ways that gender intersects with race, class, and global location in food justice and food sovereignty movements. Focusing on works by and about U.S. people of color, students will explore a variety of topics and concepts including systemic bias in food deserts and local food, decolonizing food, hunger and malnutrition, and human rights. Examination of these narratives enables students to understand how food and food systems are both a means of dominant control and powerful sites of gender resistance.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Human Diversity within the U.S.
Ethical Reasoning and Responsibility

GWSS 605 - Social Change Field-Experience

Credits: 3

Applied, and interdisciplinary exploration of social change in community, national, and international groups and organizations. Includes field experience, professional-related training.

Repeat for Credit
N

Requisites
Prerequisite: Permission of the instructor, and junior standing.

Typically Offered
On sufficient demand

K-State 8
Human Diversity within the U.S.
Social Sciences

GWSS 610 - Capstone Seminar in Gender, Women, and Sexuality Studies

Credits: 3

An advanced seminar for in-depth investigation of a specific topic. Students will conduct independent research and produce a substantial project or paper.

Repeat for Credit
Y

Requisites
Prerequisite: GWSS 510.

Typically Offered
Fall

K-State 8
Human Diversity within the U.S.

GWSS 700 - Advanced Topics in Gender, Women, and Sexuality Studies

Credits: 1-3

Provides an in-depth theoretical and empirical analysis of scholarly works relating to an interdisciplinary topic in gender, women, and sexuality studies.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing or above and instructor permission.

Typically Offered
Other

K-State 8
Human Diversity within the U.S.

GWSS 784 - Internship in Gender, Women, and Sexuality Studies

Credits: 1-12

Supervised field work at the local, state, national, or international level in a community, volunteer, activist, or political organization.

Note
A maximum of 3 credit hours can be counted toward the gender, women, and sexuality studies minor, and a maximum of 6 credit hours towards the major.

Repeat for Credit
N

Requisites
Prerequisite: Consent of instructor and two courses in gender, women, and sexuality studies.

Typically Offered
Fall, Spring, Summer

K-State 8
Human Diversity within the U.S.

GWSS 799 - Independent Study for Graduate Students or Advanced Undergraduate Students

Credits: 1-3

Independent study in problems, issues, topics in Gender, Women, and Sexuality Studies. Topics vary.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Human Diversity within the U.S.

GWSS 810 - Key Concepts in Gender, Women, and Sexuality Studies

Credits: 3

Introduction to core theoretical concepts, research methods, and methodologies in Gender, Women, and Sexuality Studies. Provides feminist, queer, trans, women's, and race and ethnic studies foundations and frameworks for graduate level inquiry.

Note
Required for Graduate Certificate in Gender, Women, and Sexuality Studies.

Repeat for Credit
N

Typically Offered
Spring

HDFS 102 - Careers in Human Development & Family Science

Credits: 1

Focuses on career development and related activities for Human Development & Family Science majors.

Repeat for Credit
N

Typically Offered
Fall, Spring

HDFS 110 - Introduction to Human Development

Credits: 3

A study of physical, social, and psychological human development and growth across the life course with an emphasis on relationships with family, peers, and others.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Human Diversity within the U.S.
Social Sciences

HDFS 201 - Introduction to Philanthropy

Credits: 3

Examines the history, principles, and practice of philanthropy, with a particular focus on relationship building and the desire to promote the well-being of others by working to prevent or resolve social issues.

Repeat for Credit
N

Typically Offered
Fall-Even Years

HDFS 250 - Interpersonal and Family Relationships

Credits: 3

Study of diverse family and close interpersonal relationships including romantic, parent-child, sibling, and other close relationships, with an emphasis on how individuals, families, and society influence relationships.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 110 or PSYCH 110 or SOCIO 211.

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Social Sciences

HDFS 300 - Problems in Human Development and Family Science

Credits: 1-18

Independent or small group study.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HDFS 301 - Interpersonal Skills for Helping Professionals

Credits: 3

Study of personal qualities necessary for working with and recognizing needs of diverse individuals and families with an emphasis on interpersonal skills needed as helping professionals.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 110 or PSYCH 110.

Typically Offered
Fall, Spring, Summer

K-State 8
Human Diversity within the U.S.
Social Sciences

HDFS 302 - Introduction to Human Sexuality

Credits: 3

Study of sexual development relationships across the life course.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

HDFS 303 - Developing Intimate Relationships

Credits: 3

This course will explore topics related to intimate relationships, which include attraction, communication, casual encounters, cohabitation and conflict. Students will critically evaluate current theory and research concerning the elements of healthy relationships. This course will include a didactic and experiential opportunities for the development of a body of knowledge concerning committed relationships, the development of interpersonal skills, increasing personal awareness, and establishing appropriate expectations.

Repeat for Credit
N

Typically Offered
Intersession

HDFS 305 - Family Violence Across the Life Course

Credits: 3

Study of violence within families (e.g., child abuse, dating violence, intimate partner violence, elder abuse), prevalence rates, risk and protective factors, and outcomes with an emphasis on prevention and intervention.

Repeat for Credit
N

Typically Offered
Other

HDFS 307 - Introduction to Marriage and Family Therapy

Credits: 3

This course is designed as an introduction to the theory and practice of MFT. It includes a study of the philosophical, conceptual, and theoretical background of family therapy. The course will review theoretical formulations, common family problems, and effective treatment strategies. Readings and class discussions will provide students with practical examples of the concepts and offer opportunities for students to examine their own family dynamics.

Repeat for Credit
N

Typically Offered
Other

HDFS 322 - Transition to Parenthood

Credits: 3

This course is an empirically based evaluation of the transition to parenthood from the onset of pregnancy to three years after the child's birth.

Repeat for Credit
N

Typically Offered
Intersession

K-State 8
Social Sciences

HDFS 375 - Introduction to Research Methods in Human Development and Family Science

Credits: 3

Study of research methods in the field of human development and family science with an emphasis on the intersection of research methods, theory, and practice. Students will develop an understanding of the research process and skills necessary to be a critical consumer of research.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 110 and HDFS 250.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

HDFS 411 - HDFS Practicum

Credits: 0-3

Independent Study.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HDFS 460 - Families and Social Policy

Credits: 3

Study of the impact of policies on families and the roles of HDFS professionals in advocacy and education regarding policies and policy change related to individual and family well-being.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Social Sciences

HDFS 475 - Introduction to Child Life

Credits: 3

Introduction to the field of child life practices in direct and non-direct services in pediatric healthcare. Focus on the impact of illness, injury and healthcare on children and their families through the context of development theory and psychosocial treatment issues that affect the healthcare experience.

Note
Meets the required standards of the Child Life Council.

Repeat for Credit
N

Typically Offered
Spring

HDFS 500 - Special Problems in Human Development & Family Services

Credits: 0-6

Independent or small group study on special topics in human development and family services.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HDFS 501 - Philanthropy in Context

Credits: 3

Examines philanthropy in the context of diverse individuals and organizations, and considers the unique contributions of diversity in the areas of donor motivation, identification of funding sources, and approaches to philanthropic efforts that might be culturally or contextually influenced. Ethical considerations relevant to the field will also be explored.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 201

Typically Offered
Spring-Even Years

K-State 8
Human Diversity within the U.S.

HDFS 506 - Adolescent and Emerging Adult Development

Credits: 3

Study of development during adolescence and emerging adulthood with an emphasis on individual, family, societal, and contextual factors.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 110 or PSYCH 110.

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

HDFS 510 - Midlife to Late Adult Development

Credits: 3

Study of adult development with an emphasis on individual, family, societal, and contextual factors.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 110 or PSYCH 280.

Typically Offered
Fall, Spring, Summer

K-State 8
Human Diversity within the U.S.
Social Sciences

HDFS 525 - Community Mental and Relationship Health

Credits: 3

Undergraduate students will explore theoretical models and research on how social scientists, educators, and practitioners can collaborate with communities to improve mental health and relationship well-being. Teams will apply strategies by partnering with community organizations to develop a brief mental health and relationship well-being community program and walk away with materials applicable to community change in diverse future professions.

Repeat for Credit
N

Typically Offered
Spring-Even Years

K-State 8
Social Sciences

HDFS 550 - Application of Theories in HDFS

Credits: 3

Study, survey, and critique of prominent human development and family theories with an emphasis on using theory to work with individuals and families in professional settings.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 250.

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

HDFS 552 - Social Justice in a Family Context

Credits: 3

Study of how individuals and families experience inequality, power, and privilege related to race, ethnicity, national origin, gender, social class, religion, sexual orientation, socioeconomic status, geographic location, ability, and other social positions.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 250.

Typically Offered
Fall, Spring, Summer

K-State 8
Human Diversity within the U.S.
Social Sciences

HDFS 570 - Program Development and Implementation

Credits: 3

Study of translating research-based knowledge into educational materials and programs for individuals and families, with an emphasis on prevention programs.

Repeat for Credit
N

Requisites
Prerequisites: HDFS 110 and HDFS 250

Typically Offered
Fall, Spring

HDFS 575 - Research Practicum

Credits: 0-3

Independent or small group study. Provides students with a high impact experiential research opportunity with faculty.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HDFS 579 - Orientation to Human Development and Family Science Internship

Credits: 1

Consideration and application of professional knowledge and skills necessary for selection and placement in a social agency for a supervised experience in direct service to clients.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing; and minimum GPA of 2.50; HDFS majors only.

Typically Offered
Fall, Spring, Summer

HDFS 580 - Human Development Family Science Internship

Credits: 1-9

An internship experience at a student-selected agency or organization.

Repeat for Credit
Y

Requisites
Prerequisite: HDFS 579 with grades of B or better; senior standing; and minimum GPA of 2.50; HDFS majors only.

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

HDFS 585 - Professional Seminar in Human Development and Family Science

Credits: 3

Seminar course for students completing the HDFS Internship. Consideration of professional roles and responsibilities of family science professionals, ethical decision-making, and career development. Focus on skills required in the delivery of human services with diverse groups.

Repeat for Credit
N

Requisites

Prerequisite: HDFS 579, Senior standing, and HDFC majors only. Corequisite: HDFS 580.

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

HDFS 590 - Professional Capstone in Human Development and Family Science

Credits: 2

This course focuses on the development of career and professionals skills relevant to human development and family science professionals.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing and HDFS majors only.

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility

HDFS 654 - Death and the Family

Credits: 2-3

Exploration of contemporary attitudes toward death and dying; related influences on individual development and family life.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 550 or SOCIO 640.

Typically Offered
Other

K-State 8
Social Sciences

HDFS 660 - Marriage Preparation and Enrichment

Credits: 3

History, processes, components, goals, and research support base for contemporary marriage preparation and enrichment programs.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 250 and HDFS 550.

Typically Offered
Intersession

K-State 8
Social Sciences

HDFS 670 - Working with Parents

Credits: 3

Approaches to parenting and parent education with emphasis on programmatic implications of life-span developmental principles within a family context.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 110 and HDFS 250.

Typically Offered
Fall, Spring, Summer

K-State 8
Human Diversity within the U.S.
Social Sciences

HDFS 700 - Problems in Human Development and Family Science

Credits: 1-6

Independent study on aspects of human development and family studies.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HDFS 708 - Topics in Human Development and Family Science

Credits: 2-3

Review of recent research and theory related to exploration of methods and family and interpersonal processes.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HDFS 711 - Foundations of Youth Development

Credits: 1

This course examines the fundamentals of youth development and the youth development profession. Through this introduction to the field, students will explore the ethical, professional and historical elements of youth development as it has evolved toward professionalization.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

HDFS 712 - Community Youth Development

Credits: 3

Community Youth Development focuses upon the national emphasis of a strength-based or asset approach to community youth development. Emphasis is placed upon research, theory, and practice applied in communities throughout the United States. Students will explore existing models, theoretical and applied literature and current community efforts as a basis for understanding community youth development.

Repeat for Credit
N

Typically Offered
Fall

HDFS 713 - Adolescents and Their Families: Implications for Youth Professionals

Credits: 3

This course covers adolescent development as it is related to and intertwined with family development. The reciprocal influences between adolescents and their families will be examined. Working with youth in relation to the family system will be highlighted.

Repeat for Credit
N

Typically Offered
Spring

HDFS 714 - Program Design, Evaluation, and Implementation

Credits: 3

Overview of the program development process and outcome evaluation of community, children, and family programs. Mode of outcome scholarship and their implications for community-based programs are discussed. Participation in community-based projects involving the practical application of program design and evaluation methods.

Repeat for Credit
N

Typically Offered
Spring

HDFS 715 - Youth Issues and Life Skills

Credits: 2

This course will present three strands: issues faced by youth today and associated risk and resiliency factors; life skills for youth; and helping skills necessary for youth professionals who work with young people.

Repeat for Credit
N

Typically Offered
Summer

HDFS 716 - Topics in Contemporary Youth Issues

Credits: 1-3

This course will present issues faced by youth today and associated risk and resiliency factors.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HDFS 717 - Youth Policy

Credits: 3

Examines various federal and state policies designed specifically for youth including (a) defining and identifying current youth policies; (b) examining policies designed to "protect the well-being" of youth (e.g., zero tolerance, restorative justice, juvenile justice and reform); and (c) examining targeted youth policies (e.g., foster care, policies for youth with disabilities, homeless youth).This course examines various federal and state policies designed specifically for youth. This course will be divided into three sections: (a) what is policy and what youth policies exist? (b) policies specifically designed for to "protect the well-being" of youth (e.g., zero tolerance, restorative justice, juvenile justice and reform), and (c) targeted youth policies (e.g., foster care, policies for youth with disabilities, homeless youth).

Repeat for Credit
N

Typically Offered
Fall

HDFS 718 - Youth Professionals as Consumers of Research

Credits: 3

Designed to help youth development professionals understand and apply research results and theories to practice. Emphasis placed on research and theory reports related to the youth development with particular attention to research procedures and outcomes.

Repeat for Credit
N

Typically Offered
Spring

HDFS 719 - Program Administration and Management

Credits: 3

Designed to introduce students to the development, administration, and management of youth, family, and community service organizations.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

HDFS 720 - Youth Development

Credits: 3

Designed to introduce students to the developmental period of adolescence including theory and research on positive youth development. Through a critical examination of the professional literature, students will recognize and become familiar with the major issues and transitions adolescents face as they successfully navigate this developmental stage.

Repeat for Credit
N

Typically Offered
Summer

HDFS 722 - Youth and Cultural Contexts

Credits: 3

Examine the cultural heritage of differing family structures, types, and social and educational processes experienced by youth in these families. Students will critically examine how ethnic groups fit historically into our society, and the results of how history has shaped our present day situation.

Repeat for Credit
N

Typically Offered
Fall

HDFS 723 - Practicum in Youth Development

Credits: 1-3

Supervised experience in youth development practice and service provision in organizational setting.

Note
Practicum and on-site supervisor consent required.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

HDFS 724 - Working with Military Families

Credits: 3

Initial information necessary to prepare a service-provider for work with military families. Introduction to the culture, context, and complexities of the contemporary military family. This course equips learners to work in capacities which support military families through times of challenge, helping them foster resilience as they cope with military life.

Repeat for Credit
N

Typically Offered
Summer

HDFS 725 - Community Mental and Relationship Health Interventions

Credits: 3

Graduate students will explore theoretical models and research on how social scientists, educators, and practitioners can collaborate with communities to improve mental health and relationship well-being. Students will have the opportunity to lead teams that will apply strategies by partnering with community organizations to develop a brief mental health and relationship well-being community program and develop materials applicable to community change in diverse future professions.

Repeat for Credit
N

Typically Offered
Spring-Even Years

HDFS 752 - Social Justice Approach to Prevention in HDFS

Credits: 3

Study of how individuals and families experience inequality, power, and privilege related to race, ethnicity, national origin, gender, social class, religion, sexual orientation, socioeconomic status, geographic location, ability, and other social positions, with an emphasis on social justice approach to prevention.

Repeat for Credit
N

Requisites
Students who have taken HDFS 552 may not take HDFS 752 for credit.

Typically Offered
Fall, Spring

HDFS 770 - Development and Implementation of Prevention Science Programs

Credits: 3

Study of translating research-based knowledge into educational materials and programs for individuals and families, with an emphasis on prevention programs in human development and family science settings.

Repeat for Credit
Y

Requisites
Recommended Prerequisite: HDFS 850

Typically Offered
Fall

HDFS 784 - Foundations and Principles of Family and Community Services

Credits: 3

An introduction to the field of family studies and related

professions that involve working with individuals and families in communities.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

HDFS 785 - Family Dynamics

Credits: 3

An examination of theories of family function and dysfunction, techniques of assessment, and models of family interventions.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

HDFS 786 - Lifespan Development

Credits: 3

Human development from both lifespan and bio-ecological perspectives focusing on major theories of development and current research on the micro-macro relationship.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

HDFS 787 - Resilience in Families

Credits: 3

Exploration of resilience approaches to the study of families and human development across the life cycle.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

HDFS 791 - Parenting Education

Credits: 3

An examination of theories, models, methods, research, and skills related to parenting and parent education.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

HDFS 801 - Grant Development and Management

Credits: 3

Introduces students to the grant development process and provides an overview of what happens after a grant is awarded. Topics include: identifying funding sources, generating fundable ideas, assessing needs, project planning, budget design, evaluation and project management.

Repeat for Credit
N

Typically Offered
Summer

HDFS 806 - Statistical Methods in Human Development and Family Science I

Credits: 3

Introductory course in the use of statistics in family and human services research. Examines the use of statistical methods from basic descriptive and univariate measures to multivariate measures including ANOVA and Multiple Regression Analyses as they are used in family and human services research. Emphasis is placed on the analytical and applied aspects of the statistical procedures.

Repeat for Credit
N

Typically Offered
Fall

HDFS 808 - Topics in Applied Family Science

Credits: 1

Recent research focusing on selected relevant topics.

Repeat for Credit
Y

Typically Offered
Fall, Spring

HDFS 809 - Qualitative Research Methods in Human Development and Family Science

Credits: 3

Expands students' skills in theories and methods associated with qualitative research. Emphasis on understanding foundations of qualitative methods, comparing and using various qualitative traditions and applying this knowledge to a research project.

Repeat for Credit
N

Typically Offered
Fall

HDFS 825 - Family Resource Management

Credits: 3

Survey course of personal finance and family resource management literature to provide an overview of how individuals and family members develop and exercise their capacity to obtain and manage resources to meet life needs. Resources include the self, other people, time, money, energy, material assets, space, and environment.

Repeat for Credit
N

Typically Offered
Summer

HDFS 850 - Family Science

Credits: 3

Survey of family research literature to illustrate various approaches to the study of the family and to understand family changes within the life cycle.

Repeat for Credit
Y

Typically Offered
Fall

HDFS 852 - Theories of Human Development and Family Science

Credits: 3

Examines theories of human development and families, with emphasis on the application of human development and family theory in prevention science.

Repeat for Credit
Y

Typically Offered
Fall

HDFS 860 - Family Policy

Credits: 3

Examines the development, formation, implementation, and application of policy issues related to the family issues and social problems. Emphasis placed on how policy is made and how professionals can influence policy issues and outcomes.

Repeat for Credit
Y

Typically Offered
Other

HDFS 862 - Interpersonal Relationships

Credits: 3

In-depth examination of interpersonal relationships, including theoretical perspectives, research methods, relationship forms, relationship processes, and how context affects relationships.

Repeat for Credit
Y

Typically Offered
Fall

HDFS 881 - Capstone in Human Development and Family Science

Credits: 1-6

Supervised experience in providing help and/or instruction in the several areas of human development and family studies presented in terms of the special interests of the students. Consent of practicum supervisor is required for each.

Repeat for Credit
Y

Requisites
Prerequisite: HDFS 719 or HDFS 770.

Typically Offered
Fall, Spring, Summer

HDFS 882 - Practicum in Study of Student Development

Credits: 1-6

Supervised experience in providing help and/or instruction in the several areas of human development and family studies presented in terms of the special interests of the students. Consent of practicum supervisor is required for each.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HDFS 888 - Research Methods in Human Development and Family Science

Credits: 3

Focuses on the study and application of research methodology in the field of Human Development and Family Science.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 225 or STAT 702.

Typically Offered
Fall

HDFS 890 - Application of Research & Statistics in Human Development and Family Science

Credits: 3

Development of students' skills as quantitative methodologists and scholars. Students will refine their thinking about their research program and explore data sets that complement their research interests. Application, for purposes of this course, involves the utilization of statistical knowledge and techniques in practice, and the ability to convey this information to others, both through academic writing and through hands-on instruction.

Note
Familiarity with the basic functions of SPSS and AMOS are recommended.

Repeat for Credit
Y

Requisites
Prerequisite: FSHS 888 and any upper division or graduate level statistics courses.

Typically Offered
Spring

HDFS 893 - Evaluation of Prevention Science Programs

Credits: 3

Study and application of program evaluation approaches and methodology pertinent to evaluating prevention science programs in human development and family science settings.

Repeat for Credit
Y

Requisites
Prerequisite: HHS 888 or another graduate level social sciences research course.

Typically Offered
Spring

HDFS 894 - Readings in Human Development and Family Science

Credits: 1-6

Implications of research findings in preparation for professional work in counseling, teaching, and research in human development and family science.

Repeat for Credit
Y

Requisites
Prerequisite: 12 hours in social-behavioral science and consent of instructor.

Typically Offered
Fall, Spring, Summer

HDFS 898 - Professional and Ethical Issues in Applied Family Science

Credits: 1

Emphasizes the research-theory-practice connection. Includes cutting-edge issues in the field, ethics and professional development.

Repeat for Credit
Y

Typically Offered
Spring

HDFS 899 - MS Research in Human Development and Family Science

Credits: 1-8

Individual research problems which may form the basis for the master's thesis or report.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HDFS 906 - Statistical Methods in Family Studies and Human Sciences II

Credits: 3

Advanced applied statistics course designed for graduate students with a foundation and understanding of basic and multivariate statistics. Examines multiple variable analyses including log-linear, discriminate analyses, OLS and logistic regression and the issues involved using these techniques; principal component and factor analyses; path analyses; structural equation modeling; hierarchical linear and nonlinear modeling; and growth curve modeling.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 806

Typically Offered
Fall

HDFS 909 - Advanced Qualitative Methods in Family Science

Credits: 3

Emphasizes the diversity and variety within qualitative methodology. Focuses on hands-on experiences of completing a qualitative research project after the basic research design has been determined.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 809 OR EDLEA 838

Typically Offered
Spring

HDFS 950 - Theory Construction in Human Development and Family Science

Credits: 3

Focuses on the philosophical underpinnings, history, and practice of theory construction in the field of Human Development and Family Science. Includes examination of strategies and approaches to developing theories about individuals and families and the relationships of theory development to research methodology and practice.

Repeat for Credit
Y

Requisites
Prerequisite: HDFS 852

Typically Offered
Spring-Odd Years

HDFS 979 - Advanced Professional Issues in Family Science

Credits: 3

Capstone course for PhD students. Examines expectations and responsibilities of working in academia or other PhD-level professional positions: submitting and reviewing scholarly publications and presentations, serving as an expert witness, professional ethics, etc.

Repeat for Credit
Y

Requisites
Prerequisite: Completed at least 24 graduate credits.

Typically Offered
Other

HDFS 981 - Applied Practicum in HDFS

Credits: 1-3

This course is designed to provide students in the Prevention Science in HDFS doctoral program with a supervised experience in the field. The practicum experience helps students synthesize and apply their coursework while learning more about being a highly skilled professional in the field.

Repeat for Credit
Y

Requisites
Recommended Prerequisite: HDFS 770 and consent of instructor.

Typically Offered
Fall, Spring, Summer

HDFS 982 - College Teaching Practicum in HDFS

Credits: 1-3

This course is designed for students in the Prevention Science in HDFS doctoral program to gain practical skills in teaching through a structured teaching experience. This will involve observing; developing activities, lectures, assignments, and exams; teaching part of the assigned course; evaluating student performance; as well as other relevant teaching experiences.

Repeat for Credit
Y

Requisites
Prerequisite: EDCI 943

Typically Offered
Fall, Spring, Summer

HDFS 983 - Research Practicum in HDFS

Credits: 1-3

This course is designed for students in the Prevention Science in HDFS doctoral program to gain practical, advanced skills in human development and family science research through a structured research experience. This may consist of data collection, data analysis, literature reviews, dissemination of findings, as well as other relevant research experiences.

Repeat for Credit
Y

Requisites
Prerequisite: HHS 888 Corequisite: HDFS 809 or CFT 983

Typically Offered
Fall, Spring, Summer

HDFS 990 - Dissertation Proposal Seminar

Credits: 1

Dissertation Proposal Seminar

Repeat for Credit
Y

Typically Offered
Other

HDFS 999 - PhD Research in Human Development and Family Sciences

Credits: 1-18

PhD research in human development and family sciences.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HHS 100 - Well-being 1: You and Community

Credits: 1

Explore the meaning of well-being and how we foster it in the context of community. Learn how a better understanding of ourselves leads to greater well-being and sense of community.

Note
This course must be taken prior to other HHS Well-Being Courses. (HHS 200 and HHS 300)

Repeat for Credit
N

Typically Offered
Fall, Spring

HHS 200 - Well-being 2: Mind and Body

Credits: 1

Reflect on and assess current physical, psychological, and social well-being. Utilize evidence-based recommendations, reliable sources, and personal strengths to set and track progress towards mind, body, and relational goals.

Repeat for Credit
N

Requisites
Prerequisite: HHS 100 OR [HHS 101 AND HHS 201].

Typically Offered
Fall, Spring

HHS 300 - Well-being 3: Money and Meaning

Credits: 1

Explore components of financial well-being and how to access advice when major life issues arise with financial implications. Examine career well-being as a broad concept and how it relates to our sense of personal well-being, purpose, and meaning. Reflect on the interrelationship of career, social, financial, physical, and community well-being across the lifespan.

Repeat for Credit
N

Requisites
Prerequisite: HHS 100 OR [HHS 101 AND HHS 201].

Typically Offered
Fall, Spring

HHS 385 - Problems in Health & Human Sciences

Credits: 0-18

Independent study.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HHS 400 - Wichita State University Nursing Partnership

Credits: 0

Wichita State University Nursing Partnership

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HHS 499 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research projects.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HHS 888 - Foundations in Research Methodology

Credits: 3

Graduate level course provides a foundation in research methodology in health and human sciences.

Repeat for Credit
N

Typically Offered
Fall

HHS 995 - Grant Writing and Management

Credits: 3

Focus on identifying extramural funding sources, grant writing, and managing grants.

Repeat for Credit
N

Requisites
Prerequisite: HHS 888 or other graduate-level research methods course.

Typically Offered
Spring

HINDI 101 - Hindi I

Credits: 4

Introduction to the structure of modern Hindi. Listening, speaking, reading, and writing.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

HINDI 102 - Hindi II

Credits: 4

Continuation of Hindi I, completion of the basic structural and linguistic principles of Hindi.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

HINDI 201 - Hindi III

Credits: 4

Continuation of Hindi II. Listening, speaking, reading, and writing.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

HINDI 301 - Hindi IV

Credits: 3

Continuation of Hindi III. Listening, speaking, reading and writing.

Repeat for Credit
N

Typically Offered
Fall, Spring

HIST 100 - Introduction to History

Credits: 3

What history is, how it is produced, and what its functions are. Designed for freshmen who want an introductory course which explains the methodology, purposes, and career options of the discipline.

Repeat for Credit
N

Typically Offered
Fall, Spring

HIST 101 - Western Civilization I: Ancient Greece to Early Modern Europe

Credits: 3

Major trends in Western Civilization from its beginnings to roughly the end of the seventeenth century. The scope of this course includes ancient Greece and Rome, the Middle Ages, the Renaissance, the Reformation, and early modern Europe, but chronological and topical emphases vary with individual sections.

Note
Required of all majors in history.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 102 - Western Civilization II: Europe in the Modern World

Credits: 3

Principal developments since the beginning of the eighteenth century. Scope includes the Enlightenment, the French Revolution, the Industrial Revolution, nationalism, imperialism, communism, fascism, the two world wars, the Holocause, and Europe during and after the Cold War. Chronological and topical emphases vary with individual sections.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 103 - Overseas European Studies

Credits: 2-3

Selected aspects of European history and culture with readings, lectures, and discussions which will relate historical events to places visited.

Repeat for Credit
N

Typically Offered
Intersession

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 105 - Western Civilization: The Rise of Europe (Honors)

Credits: 3

Major trends in Western history from the beginnings of European civilization to the end of the seventeenth century. Scope includes classical antiquity, the Middle Ages, the Renaissance, the Reformation, and early modern Europe, but chronological and topical emphases vary with individual sections.

Repeat for Credit
N

Typically Offered
Other

K-State Core
6 Arts and Humanities

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 106 - Western Civilization: The Modern Era (Honors)

Credits: 3

Principal developments in Western civilization from the beginning of the eighteenth century to the present. Scope includes the Enlightenment, the French Revolution, the Industrial Revolution, nationalism, imperialism, communism, fascism, and the two world wars, but chronological and topical emphases vary with individual sections.

Repeat for Credit
N

Typically Offered
Other

K-State Core
6 Arts and Humanities

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 111 - World History to 1450

Credits: 3

Major developments in the history of the world from the earliest civilizations to the eve of European expansion in the fifteenth century. Comparison of key trends and conditions in different parts of the world. Topics include the agricultural revolution, the birth of the city, the formation of states and empires, and the emergence of world religions.

Repeat for Credit
N

Typically Offered
Other

K-State Core
6 Arts and Humanities

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 112 - World History From 1450

Credits: 3

Major trends in the history of the world from the 15th century to the present. Global patterns of contact, mutual influence, and interdependence.

Repeat for Credit
N

Typically Offered
Other

K-State Core
6 Arts and Humanities

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 151 - History of the United States to 1877

Credits: 3

Includes ethnic, social, military, political, economic, diplomatic, and ideological themes. The chronological emphasis varies with instructor. The aim of the course is to achieve a broad understanding of American civilization to 1877.

Repeat for Credit
N

Typically Offered
Other

K-State Core
6 Arts and Humanities

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 152 - History of the United States Since 1877

Credits: 3

Ethnic, social, political, economic, and diplomatic history. The goal of the course is to achieve a broad understanding of American civilization since 1877.

Repeat for Credit
N

Typically Offered
Other

K-State Core
6 Arts and Humanities

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 155 - Introduction to US Military History

Credits: 3

Studies the history of the military and warfare in the United States from 1775 to the present. Includes strategic, operational, political, and social developments to explain how warfare has shaped US society and culture, and how they, in turn, shaped the US military. Topics include the history and development of the armed forces, the operational history of US wars, the place of the military in US society and culture, the influence of technological changes on warfare, and the role of women and people of color in the armed forces over time.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Historical Perspectives
Global Issues and Perspectives

HIST 200 - Topics in History for Freshmen and Sophomores

Credits: 1-3

Exploration of the historical dimensions of a particular topic or theme.

Repeat for Credit
Y

Typically Offered
Other

K-State 8
Historical Perspectives

HIST 250 - Russian Culture and Civilization

Credits: 3

Russia's past and present in the light of principle ideologies with emphasis upon fine arts, literature, music, religion, politics, and education. Equal time will be given to the Tsarist and the Soviet periods.

Note
Knowledge of Russian language is not required.

Repeat for Credit
N

Typically Offered
Other

Cross-listed
RUSSN 250

K-State 8
Aesthetic Interpretation
Historical Perspectives

HIST 297 - Honors Introduction to the Humanities I

Credits: 3

Study of selected major works of history, literature, and philosophy which have been of central importance in the Western cultural tradition. Considerable emphasis is placed on classroom discussion and writing interpretive essays.

Note
Limited to entering freshmen students. Consent of instructor

Repeat for Credit
N

Typically Offered
Fall

Cross-listed
ENGL 297, MLANG 297, PHILO 297

K-State 8
Aesthetic Interpretation
Historical Perspectives

HIST 298 - Honors Introduction to the Humanities II

Credits: 3

Continuation of HIST 297.

Repeat for Credit
N

Requisites
Prerequisite: HIST 297 or consent of instructor.

Typically Offered
Spring

Cross-listed
ENGL 298, MLANG 298, PHILO 298

K-State 8
Aesthetic Interpretation
Historical Perspectives

HIST 300 - Introduction to Historical Thinking

Credits: 3

Introduces the history major to the major principles of historical thinking as well as providing an introduction to the methodologies of historical research.

Repeat for Credit
N

Requisites
Prerequisite: Declared major in History.

Typically Offered
Fall, Spring

HIST 301 - Topics in History

Credits: 3

Detailed investigation of a particular theme, event, or problem in history.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Historical Perspectives

HIST 303 - Latin American History and Civilization

Credits: 3

Introduces the history of Latin America from the earliest times to the present. Argentina, Brazil, Cuba, Mexico, and Peru will receive special attention. Themes treated will include race and ethnicity, cultural survival, revolution and authoritarianism, women and family, and the role of economic development in Latin American history.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 311 - Race & US Foreign Relations

Credits: 3

Introduction to the impact on racial issues on U.S. international relations, especially relations with Africa, Asia, the Pacific Islands, and Latin American from the early 1800s through the conclusion of the Cold War (1991). Focuses on issues such as immigration, coloniziation, and decolonization, economic influences, and miliary deployment.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 320 - History of Technology

Credits: 3

This course focuses on the development of technology from ancient times to modern day, with emphasis on technology and its impact on American society from colonial times to present. Students will prepare a portfolio project that will feature a research or service learning component.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 100.

Typically Offered
Other

K-State 8
Historical Perspectives

HIST 330 - History of East Asian Civilizations

Credits: 3

East Asian history from earliest times to the present. Social structures, beliefs, and values during key periods of Chinese and Japanese history. Major developments in religion, philosophy, literature, and the arts.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 331 - Introduction to Japan

Credits: 3

Historical survey of Japan from prehistoric times to the present day, which may include material on society, politics, and culture.

Repeat for Credit
N

Typically Offered
Other

Cross-listed
GEOG 331

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 332 - Introduction to China

Credits: 3

Survey of the history, geography, politics, and culture of China from prehistoric times to the present day.

Repeat for Credit
N

Typically Offered
Other

Cross-listed
GEOG 332

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 333 - War and Conquest in Hispanic America

Credits: 3

Explores the conquests of Spanish America: how did just a few hundred Spaniards topple the expansive Aztec empire? What are the legacies and myths of conquest that persist today? Examines relations between indigenous inhabitants of the Americas and European conquistadors through historical texts, artwork, and literature.

Repeat for Credit
N

Typically Offered
On sufficient demand

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 340 - The Middle Ages, 500-1500 AD

Credits: 3

Surveys the consensus schemas that drive academic approaches to the culture of western Europe between roughly 500 and 1500 AD including the "Tripartite Chronological (Antiquity, Middle Ages, Modern), "Western Civilization," "Meta-Narrative of Progress," "Clash of Civilizations," and "Global Middle Ages."

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Historical Perspectives
Global Issues and Perspectives

HIST 350 - Hollywood and the Military

Credits: 3

Considers the impact of changes in the political, social, cultural, and geopolitical context on Hollywood's representation of the military.

Repeat for Credit
Y

Typically Offered
Fall, Summer

HIST 352 - Cold War Cultures

Credits: 3

Examines how the Cold War (1945-1991) conflict was not only a diplomatic and military conflict. It also influenced US culture and other societies' cultures in profound ways. This course examines Cold War life for citizens of all corners of the globe on both sides of the Iron Curtain and in the Global South.

Repeat for Credit
N

Typically Offered
Fall-Even Years

HIST 357 - Chemical Warfare, 1914-Present

Credits: 3

Interdisciplinary look at chemical warfare. Encourages students to engage with the nature of chemical weapons as a way to help them better understand the implications of their use over the last century. Students are asked to think about the ways in which chemical compounds created for benign purposes can be subverted and used as weapons regardless of their creator's original intent.

Repeat for Credit
N

Typically Offered
Spring-Even Years

Cross-listed
CHM 357

HIST 361 - Blood and Steel: War in Europe since 1618

Credits: 3

A survey of European warfare that focuses on military operations and grand strategy. It engenders a deeper understanding of the development of European military practices and institutions and how war has shaped Europe's history.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 363 - A World in Flames: Global World War II

Credits: 3

A global exploration of the origins, conduct, and

consequence of World War II.

Repeat for Credit
N

Typically Offered
Other

HIST 364 - The Pacific War: World War II in Asia and the Pacific

Credits: 3

Explores the origins, conduct, and consequences of World War II in Asia and the Pacific. It places particular emphasis on this war's roots in the intensifying Sino-Japanese animosities by the early twentieth century, the war's interconnections to the concurrent conflicts in Europe, and the US significance to course and outcomes of the war.

Repeat for Credit
N

Typically Offered
Spring

HIST 365 - Bloody Battlefields: WWII in Europe

Credits: 3

From Hitler's rise to power, to siege of Stalingrad, to the Normandy landings, this class will follow the unfolding of WWII on both eastern and western fronts until the meeting of Soviet and American troops on the Elbe River in 1945. In addition to the belligerents' grand strategies and the unfolding of specific battles, this class will look at the ways the war affected people and societies.

Repeat for Credit
N

Requisites
Recommended Prerequisite: HIST 155

Typically Offered
Fall-Odd Years

HIST 370 - Pirates and Piracy in Global History

Credits: 3

A global history of pirates and piracy, from Greece and Rome to the Caribbean, the South China Sea, and the Dark Web.

Note
No prior history experience needed.

Repeat for Credit
N

Typically Offered
Fall or Spring

HIST 388 - Nazi Germany and the Holocaust

Credits: 3

Examines the political, social, economic, and intellectual developments in Germany from World War I to the end of World War II, including the Nazi ideology and the Holocaust.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 399 - Honors Seminar in History

Credits: 3

Selected topics in history.

Repeat for Credit
N

Requisites
Prerequisite: Membership in honors program or consent of instructor.

Typically Offered
Other

K-State 8
Historical Perspectives

HIST 400 - Grand Strategy Simulation

Credits: 1

The annual grand strategy simulation provides students with a high-impact, applied learning experience that pushes them to move from theory to practice and implement their strategic-thinking skills they have gained in their classes by playing out a realistic crisis scenario.

Repeat for Credit
Y

Requisites
Prerequisite: HIST 155 or POLSC 145
Corequisite: being enrolled in the Grand Strategy Certificate

Typically Offered
Spring

HIST 401 - History Workshop

Credits: 3

Provides students the opportunity to engage in historical research and writing in innovative formats beyond the traditional term paper, with an emphasis on primary source analysis and/or digital humanities.

Repeat for Credit
Y

Typically Offered
Fall, Spring

HIST 410 - History of K-State Workshop

Credits: 3

Investigation of the history of Kansas State University and its students, carried out in the University Archives. Students pursue guided individual research projects and present their results in a public-facing way.

Repeat for Credit
N

Typically Offered
Fall

HIST 498 - Senior Thesis

Credits: 3-6

Senior Thesis

Repeat for Credit
N

Requisites
Prerequisite: Senior standing.

Typically Offered
Fall, Spring, Summer

K-State 8
Historical Perspectives

HIST 499 - Honors Project

Credits: 3

Open only to Arts & Sciences students who are active members of the University Honors Program.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Historical Perspectives

HIST 501 - Japan's Samurai Age

Credits: 3

The history of Japan from earliest times to the fall of the Tokugawa shogunate in 1868, including major developments in political institutions, social structures, and religious beliefs. Examines the rise and development of the warrior class that dominated society and government for much of this period.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 503 - Historical Study in International Setting

Credits: 2-3

Course work that enhances the experience of international travel and study. Requires an historical engagement with the travel experience through readings, lectures, discussion, and written work.

Note
Instructor permission

Repeat for Credit
N

Typically Offered
Summer

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 504 - Intellectual History of Early China

Credits: 3

Introduction to the development of Chinese thought during the period from about 1200 BC to 100 BC, with emphasis on the foundational ideas of Confucianism, Daoism, and Legalism and their incorporation within the emerging imperial order.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 505 - South Asian Civilizations

Credits: 3

Interdisciplinary survey of the development of civilization in India, Pakistan, Sri Lanka, Bangladesh, Nepal, Bhutan, and Afghanistan, including geography, philosophy, social, economic, political institutions, and historical movements.

Repeat for Credit
N

Requisites
Prerequisite: Three hours of social science or junior standing.

Typically Offered
Fall-Even Years

Cross-listed
ANTH 505, ECON 505, GEOG 505, POLSC 505, SOCIO 505

K-State 8
Global Issues and Perspectives
Social Sciences

HIST 506 - Modern India and South Asia

Credits: 3

The history of India, Pakistan, and Bangladesh since 1500, beginning with Mogul rule and continuing through European colonialism, the anti-imperial struggle, and the troubled transition to independence.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 507 - China Since 1644

Credits: 3

China from the founding of the Manchu Qing dynasty to the present. Includes the western imperialist challenge in the nineteenth century, the Revolution of 1949, and the post-Mao Reforms. Emphasis on social, political and intellectual changes in the context of increasing contact with western nations and Japan.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Fall-Even Years

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 508 - Introduction to Modern East Asia

Credits: 3

The history of China, Japan, and surrounding countries including the arrival of Europeans in the sixteenth century, reactions to Western imperialism, the rise of nationalism, and revolution. The impact of the two world wars, the era of post war developments, communism in China, democracy in Japan, and the end of Western colonialism are also examined.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 509 - Japan Since 1550

Credits: 3

Japan from reunification in the sixteenth century through the Tokugawa and Imperial eras to the postwar recovery. Emphasis on understanding modern Japan as the product of traditional culture, the Meiji Restoration, and World War II.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 510 - World War I

Credits: 3

Examines the origins, events and consequences of the "war to end all wars." The impact and influence of the war on colonialism, imperialism, and popular culture will be discussed.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 511 - Environmental History

Credits: 3

An introduction to environmental history as an academic specialization through selected reading and topical lectures. The course emphasizes the study of people in nature through time; it stresses people's response to environmental change through three broadly defined periods: pre-industrial, modern industrial, and contemporary.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 512 - Women in European History

Credits: 3

A study of women in primitive European societies, in preindustrial times, and in the industrial era. Emphasis will be upon the position and role of women within the society.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 513 - Battles and Leaders

Credits: 3

The course will emphasize military organization, tactics and strategy, generalship and grand strategy, manpower and logistics, and the wartime ramifications of war on land, at sea, and in the air.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 515 - History of Sport

Credits: 3

The historical development of sport (especially in Europe and North America) including the growth of competition, the rise of mass spectator sports, elitism, and the changing function of sport. History of sport as business and history of the relationship between sport and other institutions.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 516 - The Modern Middle East

Credits: 3

History of Islam and the broader Middle East including North Africa since 1500. Topics covered include the rise of early modern empires, closer contact with Western Europe and East Asia, the impact of Western imperialism, state-sponsored defensive reforms, the development of religious modernism, social movements and constitutionalism, the emergence of nationalism, oil-dependent economies and rentier states, the origins of religious activism, and the contemporary struggle for civil rights.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 517 - Iranian People Since Antiquity

Credits: 3

Critical introduction to the history, geography, society, politics, economy and culture of Iran (historical Persia) from prehistoric times to the present day.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing recommended.

Typically Offered
Fall, Spring, Summer

K-State 8

Global Issues and Perspectives
Historical Perspectives

HIST 519 - Science and Technology in the United States

Credits: 3

A survey of United States science and technology from the colonial era to the present, with special attention to how the wider social context, including the role of institutions and government, affected processes of scientific and technological development. Coverage also of the challenges of addressing the social problems that arose in connection with scientific and technological development throughout United States history.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 520 - Death and Dying in History

Credits: 3

Examines European and American attitudes toward death and dying in various historical periods. Topics include: death and dying in the European Middle Ages and in nineteenth and twentieth century America, the impact of the Nazi Holocaust on modern opinions about death, suicide as a historical problem, the fear of cancer in modern times, and others.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 521 - History of Christianity

Credits: 3

A history of the Christian religion from the era of Jesus Christ to the present with special emphasis on people and ideas.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 522 - Religion in American History

Credits: 3

A study of the impact of religion on American culture and of American culture on religion, the Social Gospel and related issues, and the interrelationship of Christianity and politics.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 523 - A History of the Occult and Witchcraft

Credits: 3

A study of the history of the occult and witchcraft in Western civilization with special attention to religious,

intellectual, and social issues and influences.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 524 - The History of Baseball in American Culture

Credits: 3

The history of baseball from its origins in the early nineteenth century to the present, with emphasis on the major leagues and their collateral organizations but also with attention to semi-pro and amateur baseball and to the old Negro Leagues. The history of the game will be examined in the context of American history with special reference to social issues, politics, religion, literature, music, and the medial.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 525 - Colonial America

Credits: 3

About 1450 to 1763. Includes the European background of North American colonization, the rivalry for new world empire, seventeenth century English colonial foundations, and development of the various colonial societies.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 526 - The American Revolution

Credits: 3

Eighteenth century colonial background of the Revolution and the revolutionary era itself, 1763-1789. Stresses ideological and other causes of the Revolution, the course of the war, its social results, the Confederation and its demise.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 527 - The Early National Period

Credits: 3

Foundations of the new nation from the adoption of the Constitution to the conclusion of the War of 1812, approximately 1789-1815. Stresses the contest between Hamiltonians and Jeffersonians for philosophical dominance of institutions; other topics include diplomacy, westward expansion, military developments, the social and intellectual life of the era.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered

Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 529 - Civil War and Reconstruction

Credits: 3

1848-1877. Examination of the sectional controversy, the failure of the political system to resolve peacefully the conflict between North and South, the resort to arms, the nature of the post-war settlement. Emphasis is on the attempt of mid-nineteenth-century American leaders to deal with the complex problems of slavery and race.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 530 - United States in the 19th Century

Credits: 3

Explores the history of the United States during the 19th century and traces the transition of the country from a fragile, uncertain republic to a robust imperial power standing in the first rank of the world's nations.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 531 - The United States in the Twentieth Century

Credits: 3

Examines the creation of modern America, 1890 to the present. Emphasis on the social and cultural roots, and political consequences, of Progressivism, World War I, the Great Depression, World War II, the Sixties, and Post-Vietnam America.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 533 - Topics in the History of the Americas

Credits: 1-3

Provides instructor and students the opportunity to investigate in detail a particular theme, event, or problem in the history of North, Central, or South America. Topics vary.

Repeat for Credit
Y

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 534 - Social History of Medicine

Credits: 3

An exploration of the development of American social thought and practices regarding health care from colonial

times to the present. The course stresses changing cultural attitudes toward disease as well as alterations in social practices and institutions related to healing. Special emphasis is given to the institutional development and professionalization of modern medicine.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 536 - The American West

Credits: 3

Primary emphasis on the nineteenth century when Americans were rapidly spreading across the continent. Also examines the earlier developments of the frontier and considers the twentieth century role of the trans-Mississippi region.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 537 - History of the Indigenous Peoples of North America

Credits: 3

A survey of the Indigenous peoples of the North American continent, with a focus on the United States, from 30,000 BP to the present. Drawing on the work of anthropologists, ethnologists, historians, and the voices of Native peoples, this course provides students a Native-based perspective that challenges common stereotypes and provides a pathway for understanding contemporary sovereignty movements.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 538 - Women in Sport

Credits: 3

A survey of the history of the female athlete, with special emphasis on the significance of women in sport in the United States. Themes covered include the evolution of the social roles of sport, the relationship between sport and gender, and athletes' construction of identity.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

HIST 539 - African-American History

Credits: 3

An overview of the African-American experience from the seventeenth century through the civil rights movement. Emphasizes social, legal, economic, political, and intellectual aspects of black history as well African-American contributions to American life and culture.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8

Historical Perspectives
Human Diversity within the U.S.

HIST 540 - Women in America, 1600 to the Civil War

Credits: 3

An overview of the history of American women from the beginning of the European colonization to the Civil War. Women's changing social role and its relation to the major transformations in American culture and society during this period is stressed. Special emphasis is given to ethnic, racial, and class variations among women.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 542 - Women in America, Civil War to the Present

Credits: 3

An overview of the history of American women from the end of the Civil War to the present. Examines women's changing role in modern industrial society with special emphasis upon the women's rights movement of both the nineteenth and twentieth centuries.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 543 - Forging an American Empire: US Foreign Relations to 1920

Credits: 3

History of U.S. foreign relations from its origins in the colonial era through World War I.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

HIST 544 - From World Power to Superpower: US Foreign Relations since 1920

Credits: 3

History of United States foreign relations from the end of World War I through the present day. Explores how the United States engaged the world as a global power.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 545 - War in the Twentieth Century

Credits: 3

Considers the military theory and practice, the technology, and the political and ideological constraints of World Wars I and II, the Spanish Civil War, the Korean War, and the Indochinese wars. Students are to gain an understanding of the varieties of military experience in the twentieth century, including civil wars, "total war,"and guerrilla warfare.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 546 - History of American Military Affairs

Credits: 3

Deals with the development of military institutions in colonial America and the United States, civil-military relations and conflicts between political constraints and strategic demands, popular attitudes toward the military, and the rise of the military-industrial complex.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 547 - Economic History of the United States

Credits: 3

Major topics in American economic history from the colonial period to the present. Focus is on nineteenth- and twentieth-century issues, including the rise of big business; the expanding role of the government in the economy; the Great Depression; the postwar boom and its end; issues of class, race, and gender; America's shifting roles in the global economy.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Fall

K-State 8
Historical Perspectives
Social Sciences

HIST 549 - Modern Africa from 1850

Credits: 3

Introduction to modern African history since 1850. Key topics include the establishment and impact of the colonial empires that dominated Africa between the 1880s and 1960s; the process of decolonization; African responses to colonial rule; and the development of post-Independence Africa with a special emphasis on the challenges faced by African countries.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing recommended.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 551 - History of Family Violence

Credits: 3

Explores the history of family violence in America as a social, cultural, legal, and public policy issue from colonial times to the present. Stress is placed upon the cultural roots and evolution of domestic law. The development of state-controlled social welfare agencies as well as the emergence of the "battered women's movement" is particularly emphasized.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Intersession

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 553 - History of American Culture

Credits: 3

Main emphasis is on political, religious, and social thought and ideology, 1620 to present.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Historical Perspectives

HIST 554 - History of the South

Credits: 3

Topical analysis of important issues in Southern history. Compares the plantation myth of popular films with interpretations by important historians. Emphasis on plantation agriculture, slavery, race relations, class, and gender in the Old South. Post-Civil War topics include federal Reconstruction efforts, segregation, economic reform, and the modern Civil Rights movement.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 555 - American Constitutional History

Credits: 3

Survey of constitutional and legal development from colonial times to the present. English constitutional ideas and the common law in the American colonies, formation of the Constitution, the role of the Supreme Court, development of the modern American legal system, growth of the legal profession, the problem of civil liberties. The course offers insight into the relationship of constitutional-legal institutions to American society.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 556 - Bill of Rights in American History

Credits: 3

This course provides a topical survey of the American Bill of Rights from the colonial era to the present. It begins with the origins of American rights in England and colonial America. An analysis of the need for a Bill of Rights at the founding and Supreme Court interpretations in 1835 and during the Reconstruction era follow. The bulk of the course is concerned with the nationalization and expansion of the Bill of Rights in the twentieth century and its meaning in the everyday lives of American citizens.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Ethical Reasoning and Responsibility
Historical Perspectives

HIST 557 - History of American Agriculture

Credits: 3

Concentrates on the period since 1850 in an attempt to acquaint the student with the political and economic history of American agriculture. No attempt will be made to present the scientific or technological side of agriculture in detail, but agriculture will be shown in relation to the life of the entire United States. The life of the farmer and his family, the relationship between agricultural changes and other parts of the economy will be part of this course. Special attention will be paid to agriculture in Kansas and the Great Plains.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 558 - History of Kansas

Credits: 3

Land, people, and cultural developments in Kansas, from the earliest written records to the present. Provides the student with an intimate understanding of the state of Kansas.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Fall, Spring

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 559 - History of Aztecs, Inca, and Maya

Credits: 3

Introduction to the history of Ancient Mesoamerican and Andean civilizations through a multi-disciplinary approach combining materials from the fields of history, art history, anthropology, and archaeology.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 560 - Latin American Nations

Credits: 3

Survey of economic, social, and political developments of the Latin American nations from independence to the present decade with emphasis on Argentina, Brazil, Peru, Chile, and Mexico. Stresses reform and revolution of the last 50 years.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 561 - Colonial Hispanic America

Credits: 3

Iberian and indigenous American background, exploration, conquest, settlement, and development of Latin America. Stresses growth of mestizo culture, colonial styles of living, and wars of independence.

Repeat for Credit
N

Requisites

Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 562 - Modern Mexico

Credits: 3

Brief survey of lines of national development, 1821-1910, and major emphasis on the twentieth-century revolution and its reforms (1910-1940) as well as its subsequent implications.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 564 - History of Mass Communications in America

Credits: 3

Growth and development of media and media technology in the United States and their economic, political, and social significance.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
MC 564

K-State 8
Historical Perspectives
Social Sciences

HIST 565 - History and Culture of Greece

Credits: 3

The rise of civilization in the ancient Near East, the migrations of the Greeks and the Heroic Age, the Greek city-states, commerce and colonization, the Persian invasion, Athens' leadership of Greece, the war between Athens and Sparta, Alexander the Great, and the total Hellenic achievement.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 566 - History and Culture of Rome

Credits: 3

Examines the various theories of Rome's origin, the causes, problems, and influences upon the republican government, political and economic problems of Roman expansion, and the Roman world. Various reforms including those of the Gracchi, Caesar, and Augustus. Contact with Greece and the older areas of civilization. The Roman imperial system, the many causes of Rome's fall, and Rome's role as a synthesizer of the ancient classical culture.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 567 - Europe in the Middle Ages

Credits: 3

Europe from the fall of the Roman Empire to the thirteenth century. Investigates the conflict and interaction of Roman, Christian, and Germanic ideals and attitudes in the early Middle Ages, and the increasing complexity and sophistication of society, culture, religion, and government of the high Middle Ages.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 568 - The Renaissance

Credits: 3

The Italian Renaissance as a major phase in the history of Western civilization and its spread to northern Europe.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 569 - The Reformation

Credits: 3

A study of the Protestant, Catholic, and Radical Reformations with special attention to Luther, Calvin, the origins of the Church of England and the Presbyterian Church, the Anabaptists, the Puritans, and Roman Catholic Reform, and the impact of religious developments on the political, economic, social, and intellectual history of the Western world. Covers the period from approximately 1500 to 1660.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 570 - Europe in the Seventeenth Century

Credits: 3

Surveys the economic, social, political and intellectual history of western Europe in the seventeenth century, a period marked by economic depression, international conflict, and domestic revolutions as well as by cultural achievement. Emphasizes the complex interaction among social groups; the rise of a European state system; the development of constitutional monarchy in England and absolute monarchy in France; and the change in values generated by the scientific revolution.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 571 - Eighteenth-Century Europe

Credits: 3

Europe from the death of Louis XIV in 1715 to the fall of Napoleon in 1815. The origins and development of the French Revolution and the Napoleonic legacy, also examines reform and counter-revolutionary movements in England, Italy, Russia, Poland, and the Germanies.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 572 - Nineteenth Century Europe

Credits: 3

The history of Europe from the French Revolution to the end of the first World War. Major topics covered will include the rise of conservatism as an ideology and its application in practice, the nature of liberalism and socialism, the impact of science and technology, the origins and course of World War I.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 573 - Twentieth Century Europe

Credits: 3

Examines the political, social, and intellectual developments of Europe in the period of the two world wars. Emphasis on the failure of democracy and the rise of competing antidemocratic and nondemocratic mass movements and ideologies. The course will also deal with the attempted system of collective security, its failure, and the origins and course of World War II.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 574 - Europe since World War II

Credits: 3

Postwar European society, politics, economy, and culture. The effects of total war on the population; restoration and reconstruction. The influence of the U.S. and U.S.S.R. on Europe. Capitalism, socialism, and communism in technological society. European unity movements and their conflicts with traditional values.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 576 - European International Relations to 1815

Credits: 3

The nature, evolution, and function of the diplomatic system for the Ancient World to 1815. Analyzes the Greek and Roman diplomatic tradition, international relations during the Medieval, Renaissance, and Early Modern periods, and the works of various theorists.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 577 - European International Relations Since 1815

Credits: 3

The nature, evolution, and functions of the European diplomatic system from 1815 to the present. Focuses on the Vienna settlement, the Eastern Question, the Crimean War, Italian and German unification, origins of World War I, international developments between the two world wars, the cold war, and the post-cold war era. Includes analysis of major theorists.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 578 - Central Europe, 1500-1914

Credits: 3

The diplomatic, military, political, cultural, and social aspects of the Hapsburg empire in Central Europe from its foundation to its dissolution in the twentieth century.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 579 - The British Isles to 1603

Credits: 3

English, Scottish, and Irish culture in the medieval and pre-modern periods. Early folk societies, feudalism, the church in society and politics, the origins of representative institutions and the religious reformations are studied topically.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 580 - The British Isles Since 1603

Credits: 3

English society and politics in modern times with reference also to Scotland and Ireland. Emphasis on topics such as the three orders of society (king, lords, and commons), the churches and religion, the appearance of parliamentary sovereignty, the industrial revolution, and the extension of democratic institutions.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 581 - Gender and Sexuality in Greece and Rome

Credits: 3

Provides an introduction to constructions of gender and sexuality with special focus on their intersections with culture, ethnicity, and class. Course will combine close readings of primary texts and discussions of material culture with secondary literature. Broader discussions will emphasize change over time, noting not only how gender and sexuality develop and evolve across centuries of Greek

and Roman culture but also how they influenced subsequent Western cultures. By means of close readings of these texts students will practice analyzing, interpreting, and contextualizing literature and material culture, and also come to a greater appreciation of how antiquity and modernity construct gender and sexuality. Course format will involve lecture combined with discursive analysis of texts, material culture, and especially visual arts.

Repeat for Credit
N

Typically Offered
Spring

HIST 583 - History of France, 1400-1715

Credits: 3

France from the conclusion of the Hundred Years War to the death of Louis XIV. French economy, society, and royal administration, and the changes generated in these areas by significant events: the Reformation and the Wars of Religion; the rise of France to world power; peasant uprisings and constitutional crisis; and the reforms of Richelieu, Colbert, and Louis XIV. Trends in art, architecture, and philosophy.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 584 - France and its Empire, 1815-Present

Credits: 3

Emphasis on the development of French democracy and France's place in the world. Covers the world wars and French imperialism as well as social and gender change in French history.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 585 - Medieval Christianity

Credits: 3

A survey of the development of Christianity in western Europe during the Middle Ages (c. 500-1500). Topics include the development of the papacy and the ecclesiastical hierarchy, the role of kings and other rulers, the Crusades, scholasticism, purgatory, penance, monasticism, specific religious orders like the Franciscans, baptism, marriage, asceticism, how medieval Christians read the Bible, saints, the roles of women, and heresy.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 586 - Advanced Seminar in History

Credits: 3

An undergraduate seminar that focuses on the intellectual principles of the historical discipline as well as the fundamental research techniques and writing skills used by historians. Each section of the seminar will center on a particular topic or historical problem. The students will prepare a research paper on a relevant subject of their choice.

Note
All history majors must take this seminar to complete the requirements for their degree.

Repeat for Credit
N

Requisites
Prerequisite: Six hours of History courses at or above the 500 level.

Typically Offered
Fall, Spring

HIST 587 - Nineteenth-Century Imperial Germany

Credits: 3

Central Europe in the French Revolutionary era, the revolutions of 1848, German unification, imperial Germany, emphasizing social changes, especially the transition from agrarian to industrial society.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 589 - Lost Kansas Communities

Credits: 3

Combined lecture-field research course in the history of vanished Kansas towns. Overview of settlement, persistence, and decline. Students also research a lost community of their choosing.

Note
Open to all majors with no prerequisites, sophomore standing required.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Fall, Spring, Summer

K-State 8
Historical Perspectives
Human Diversity within the U.S.

HIST 591 - The Russian Empire

Credits: 3

Imperial Russia from the earliest Slavic tribes through 1881, with emphasis on Russia's heritage as a multi-ethnic state and the phenomenon of Russia's revolutional intellectuals.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 592 - Twentieth Century Russia

Credits: 3

The turbulent history of modern Russia, including the upheaval of the Russian Revolution and Civil War, Stalin's transformation of Soviet society, World War II, failed attempts to transform the Soviet system, and the fall of the Soviet Union.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 593 - The Vietnam War

Credits: 3

Examines the origins, conduct, and long-term ramifications of the Vietnam War from 1945 to the present, emphasizing military, cultural, and environmental perspectives.

Repeat for Credit
N

Requisites
Recommended Prerequisite: HIST 155

Typically Offered
Spring-Even Years

HIST 595 - French Revolution, 1789-1815

Credits: 3

The political, economic, cultural, and social development of France from the origins of the Revolution to the Congress of Vienna.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 597 - Topics in European History

Credits: 1-3

Provides instructor and students the opportunity to investigate in detail a particular theme, event, or problem in European history.

Repeat for Credit
Y

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 598 - Topics in Non-Western History

Credits: 1-3

Provides instructor and students the opportunity to investigate in detail a particular theme, event, or problem in non-Western history.

Repeat for Credit
Y

Requisites
Prerequisite: Sophomore standing.

Typically Offered
On sufficient demand

K-State 8
Global Issues and Perspectives
Historical Perspectives

HIST 650 - Internship in History

Credits: 3

Practical professional experience involving at least three weeks in an archive, museum, historical library, or business. Student projects must be approved in advance and a report submitted at the end of the work period.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall, Spring, Summer

K-State 8
Historical Perspectives

HIST 703 - Overseas European Studies

Credits: 2-3

Short-term, intensive, and in-depth study of various aspects of European history and culture with readings, lectures,

discussions, and on-the-spot experiences which will relate historical events to the places visited.

Repeat for Credit
Y

Requisites
Prerequisite: Senior or graduate standing.

Typically Offered
Intersession

HIST 798 - Readings in History

Credits: 1-3

Students will read on a central theme, attend weekly discussions, and write a final report.

Repeat for Credit
Y

Typically Offered
Other

HIST 799 - Problems in History

Credits: 1-18

Intensive study of a particular phase of history. Students will attend weekly discussions and write a major research paper on their findings.

Repeat for Credit
Y

Typically Offered
Other

HIST 801 - Historiography

Credits: 3-4

Main currents in historical research, the writing of history, and the influence of the great historians from Herodotus to the present.

Repeat for Credit
Y

Typically Offered
Other

HIST 810 - Security Studies Methodology

Credits: 2

An exploration of commonly used research methods in history and political science. Students will investigate quantitative and qualitative humanities and social sciences methodology through selected readings and limited research exercises.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 812 or concurrent enrollment.

Typically Offered
Fall, Spring

Cross-listed
POLSC 810

HIST 815 - Research Design in Security Studies

Credits: 1

An exploration of research methods in history and political science culminating in a piece of original research in Security Studies.

Repeat for Credit
Y

Requisites
Prerequisite: HIST 810 or POLSC 810.

Typically Offered
Fall, Spring

Cross-listed
POLSC 815

HIST 850 - History and Security: East Asia

Credits: 3

An examination of the major historical problems and literature relating to national and international security in East Asia.

Repeat for Credit
Y

Requisites
Prerequisite: HIST 801 or POLSC 812 or concurrent enrollment.

Typically Offered
Other

HIST 851 - History and Security: Latin America

Credits: 3

An examination of the major historical problems and literature relating to national and international security in Latin America.

Repeat for Credit
Y

Requisites
Prerequisite: HIST 801 or POLSC 812 or concurrent enrollment.

Typically Offered
Other

HIST 852 - History and Security: the Middle East

Credits: 3

An examination of the major historical problems and literature relating to national and international security in the Middle East.

Repeat for Credit
Y

Requisites
Prerequisite: HIST 801 or POLSC 812 or concurrent enrollment.

Typically Offered
Fall

HIST 853 - History and Security: Russia/Central Asia

Credits: 3

An examination of the major historical problems and literature relating to national and international security in Russian and Central Asia.

Repeat for Credit
Y

Requisites
Prerequisite: HIST 801 or POLSC 812 or concurrent enrollment.

Typically Offered
Other

HIST 854 - History and Security: South Asia

Credits: 3

An examination of the major historical problems and literature relating to national and international security in South Asia.

Repeat for Credit
Y

Requisites
Prerequisite: HIST 801 or POLSC 812 or concurrent enrollment.

Typically Offered
Other

HIST 855 - History and Security: Modern Africa since 1850

Credits: 3

Focuses on major political events and their repercussions. Key topics include war in African history, the creation and administration of colonial empires, decolonization, and the political and security struggles of the post-independence era.

Repeat for Credit
N

Typically Offered
Fall, Spring

HIST 860 - Topics in International History

Credits: 3

Introduce the most important themes and issues in

historical topics and subjects of transnational and global significance. Contextualizes historical literature to help students prepare for teaching and for their general field exams.

Repeat for Credit
Y

Typically Offered
Fall, Spring

HIST 899 - Master's Research in History

Credits: 1-18

Master's Research in History

Repeat for Credit
Y

Typically Offered
Other

HIST 905 - Nineteenth-Century Europe

Credits: 3

An examination of the major historical problems and literature.

Note
This survey course is intended to introduce students to the most important themes and issues in their respective fields. It aims to put the historical literature in broad context to help students prepare for teaching and for their general field exams.

Repeat for Credit
Y

Typically Offered
Other

HIST 906 - Twentieth-Century Europe

Credits: 3

An examination of the major historical problems and literature.

Note
This survey course is intended to introduce students to the most important themes and issues in their respective fields. It aims to put the historical literature in broad context to help students prepare for teaching and for their general field exams.

Repeat for Credit
Y

Typically Offered
Other

HIST 907 - Colonial/Revolutionary America

Credits: 3

An examination of the major historical problems and literature.

Note
This survey course is intended to introduce students to the most important themes and issues in their respective fields. It aims to put the historical literature in broad context to help students prepare for teaching and for their general field exams.

Repeat for Credit
Y

Requisites
Prerequisite: HIST 801 or concurrent enrollment.

Typically Offered
Other

HIST 908 - Nineteenth-Century America

Credits: 3

An examination of the major historical problems and literature.

Note
This survey course is intended to introduce students to the most important themes and issues in their respective fields. It aims to put the historical literature in broad context to help students prepare for teaching and for their general field exams.

Repeat for Credit
Y

Requisites
Prerequisite: HIST 801 or concurrent enrollment.

Typically Offered
Other

HIST 909 - Twentieth-Century America

Credits: 3

An examination of the major historical problems and literature.

Note
This survey course is intended to introduce students to the most important themes and issues in their respective fields. It aims to put the historical literature in broad context to help students prepare for teaching and for their general field exams.

Repeat for Credit
Y

Requisites
Prerequisite: HIST 801 or concurrent enrollment.

Typically Offered
Other

HIST 911 - Historical Approaches to Security

Credits: 3

Examination of theories and approaches to military history and the history of international relations.

Repeat for Credit
Y

Typically Offered
Fall

HIST 912 - Historical Methods in Security Studies

Credits: 3

Training in primary-source research in military history, foreign policy, and international relations.

Repeat for Credit
Y

Typically Offered
Spring

HIST 920 - Seminar in American Social History

Credits: 3

This seminar is a course in which students are expected to study the primary source material for particular topics within a general area of study and to write a paper based on research using such sources. These courses are intended to develop graduate students' skills in the use of research tools and methods, ability to conceptualize and organize an argument, and facility in presenting research findings. Within the general areas listed below, these courses may focus inter alia upon political, diplomatic, social, religious, intellectual, or environmental history.

Note
Specific topics will be listed in the class schedule for the semester in which they are offered.

Repeat for Credit
Y

Typically Offered
Other

HIST 921 - Seminar in Latin American History

Credits: 3

This seminar is a course in which students are expected to study the primary source material for particular topics within a general area of study and to write a paper based on research using such sources. These courses are intended to develop graduate students' skills in the use of research tools and methods, ability to conceptualize and organize an argument, and facility in presenting research findings. Within the general areas listed below, these courses may focus inter alia upon political, diplomatic, social, religious, intellectual, or environmental history.

Note
Specific topics will be listed in the class schedule for the semester in which they are offered.

Repeat for Credit
Y

Typically Offered
Other

HIST 922 - Seminar in American Diplomatic History

Credits: 3

This seminar is a course in which students are expected to study the primary source material for particular topics within a general area of study and to write a paper based on research using such sources. These courses are intended to develop graduate students' skills in the use of research tools and methods, ability to conceptualize and organize an argument, and facility in presenting research findings. Within the general areas listed below, these courses may focus inter alia upon political, diplomatic, social, religious, intellectual, or environmental history.

Note
Specific topics will be listed in the class schedule for the semester in which they are offered.

Repeat for Credit
Y

Typically Offered
Other

HIST 927 - Seminar in American Science and Technology

Credits: 3

This seminar is a course in which students are expected to study the primary source material for particular topics within a general area of study and to write a paper based on research using such sources. These courses are intended to develop graduate students' skills in the use of research tools and methods, ability to conceptualize and organize an argument, and facility in presenting research findings. Within the general areas listed below, these courses may focus inter alia upon political, diplomatic, social, religious, intellectual, or environmental history.

Note
Specific topics will be listed in the class schedule for the semester in which they are offered.

Repeat for Credit
Y

Typically Offered
Other

HIST 928 - Seminar in American History

Credits: 3

This seminar is a course in which students are expected to study the primary source material for particular topics within a general area of study and to write a paper based on research using such sources. These courses are intended to develop graduate students' skills in the use of research tools and methods, ability to conceptualize and organize an argument, and facility in presenting research findings. Within the general areas listed below, these courses may focus inter alia upon political, diplomatic, social, religious, intellectual, or environmental history.

Note
Specific topics will be listed in the class schedule for the semester in which they are offered.

Repeat for Credit
Y

Typically Offered
Other

HIST 930 - Seminar in Modern European History

Credits: 3

This seminar is a course in which students are expected to study the primary source material for particular topics within a general area of study and to write a paper based on research using such sources. These courses are intended to develop graduate students' skills in the use of research tools and methods, ability to conceptualize and organize an argument, and facility in presenting research findings. Within the general areas listed below, these courses may focus inter alia upon political, diplomatic, social, religious, intellectual, or environmental history.

Note
Specific topics will be listed in the class schedule for the semester in which they are offered.

Repeat for Credit
Y

Typically Offered
Other

HIST 980 - Topics in European History

Credits: 1-3

The topics courses are designed through reading and discussion to acquaint students with the literature in various

fields or areas of history. They are also intended to familiarize students with major substantive areas of dispute and historical debate within a field of study. Within the general areas listed below, these courses may focus inter alia upon political, diplomatic, social, religious, intellectual, or environmental history.

Note
Specific topics will be listed in the class schedule for the semester in which they are offered.

Repeat for Credit
Y

Typically Offered
Other

HIST 981 - Topics in Third World History

Credits: 1-3

The topics courses are designed through reading and discussion to acquaint students with the literature in various fields or areas of history. They are also intended to familiarize students with major substantive areas of dispute and historical debate within a field of study. Within the general areas listed below, these courses may focus inter alia upon political, diplomatic, social, religious, intellectual, or environmental history.

Note
Specific topics will be listed in the class schedule for the semester in which they are offered.

Repeat for Credit
Y

Typically Offered
Other

HIST 982 - Topics in the History of Science

Credits: 1-3

The topics courses are designed through reading and discussion to acquaint students with the literature in various fields or areas of history. They are also intended to familiarize students with major substantive areas of dispute and historical debate within a field of study. Within the general areas listed below, these courses may focus inter alia upon political, diplomatic, social, religious, intellectual, or environmental history.

Note
Specific topics will be listed in the class schedule for the semester in which they are offered.

Repeat for Credit
Y

Typically Offered
Other

HIST 983 - Topics in Military History

Credits: 1-3

The topics courses are designed through reading and discussion to acquaint students with the literature in various fields or areas of history. They are also intended to familiarize students with major substantive areas of dispute and historical debate within a field of study. Within the general areas listed below, these courses may focus inter alia upon political, diplomatic, social, religious, intellectual, or environmental history.

Note
Specific topics will be listed in the class schedule for the semester in which they are offered.

Repeat for Credit
Y

Typically Offered
Other

HIST 984 - Topics in American History

Credits: 1-3

The topics courses are designed through reading and discussion to acquaint students with the literature in various fields or areas of history. They are also intended to familiarize students with major substantive areas of dispute and historical debate within a field of study. Within the general areas listed below, these courses may focus inter alia upon political, diplomatic, social, religious, intellectual, or environmental history.

Note
Specific topics will be listed in the class schedule for the semester in which they are offered.

Repeat for Credit
Y

Typically Offered
Other

HIST 985 - Readings in History

Credits: 1-3

The topics courses are designed through reading and discussion to acquaint students with the literature in various fields or areas of history. They are also intended to familiarize students with major substantive areas of dispute and historical debate within a field of study. Within the general areas listed below, these courses may focus inter alia upon political, diplomatic, social, religious, intellectual, or environmental history.

Note
Specific topics will be listed in the class schedule for the semester in which they are offered.

Repeat for Credit
Y

Typically Offered
Other

HIST 986 - Problems in History

Credits: 1-3

The topics courses are designed through reading and discussion to acquaint students with the literature in various fields or areas of history. They are also intended to familiarize students with major substantive areas of dispute and historical debate within a field of study. Within the general areas listed below, these courses may focus inter alia upon political, diplomatic, social, religious, intellectual, or environmental history.

Note
Specific topics will be listed in the class schedule for the semester in which they are offered.

Repeat for Credit
Y

Typically Offered
Other

HIST 987 - Seminar in Writing History for Publication

Credits: 3

Students will take an example of their past or current written work (a seminar paper, a section of a thesis or dissertation) and refine it for publication as a scholarly article. Emphasis will be on writing in a clear, correct, and well-organized way; on sharpening arguments and interpretations; on undertaking additional research in primary and secondary sources; and on critiquing the work of fellow students in a professional manner.

Repeat for Credit
Y

Requisites
Prerequisite: Must be enrolled in the Graduate Program.

Typically Offered
Other

HIST 990 - Seminar in Military History

Credits: 3

Discusses such problems as command, the military and diplomacy, the officer corps, training, and women in the military.

Repeat for Credit
Y

Requisites
Prerequisite: HIST 801 or concurrent enrollment.

Typically Offered
Other

HIST 993 - History of Military Thought

Credits: 3

The History of Military Thought from Machiavelli to the Present.

Repeat for Credit
Y

Requisites
Prerequisite: HIST 801 or concurrent enrollment.

Typically Offered
Other

HIST 999 - PhD Research in History

Credits: 1-18

PhD Research in History

Repeat for Credit
Y

Typically Offered
Other

HM 101 - Freshman Seminar in Hospitality Management

Credits: 1

A general orientation to the university, college, and department. Students will develop an understanding of Strengths Quest, academic career planning, the enrollment process, basic interviewing skills, resume development, and other issues as they apply to students in the hospitality management program.

Repeat for Credit
N

Requisites
Prerequisite: Hospitality Management majors only.

Typically Offered
Fall, Spring

HM 120 - Introduction to the Hospitality Industry

Credits: 3

Overview of the hospitality industry. Survey of the history, scope, trends, and career opportunities that comprise the segments of the industry.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Historical Perspectives

HM 205 - Food Safety and Protection in Hospitality Operations

Credits: 1

Overview of environmental issues that impact the hospitality industry. Includes: food safety principles and applications, Hazard Analysis Critical Control Point (HACCP) systems, and governmental regulations in the hospitality industry. Successful completion of the ServSafe Food Protection Manager Exam is required of all students in the course.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences

HM 230 - Issues in Tourism

Credits: 3

An overview of the history and implications of travel and tourism focusing on the understanding of tourism from the perspectives of travelers and communities, while identifying tourism's economic, socio-cultural, and environmental impacts.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Global Issues and Perspectives

HM 275 - Hospitality Work Experience I

Credits: 1

Planned experience in a hospitality operation; minimum of 200 hours exclusive of course work.

Note
Consent of School

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility

HM 301 - Junior Seminar in Hospitality Management

Credits: 1

This seminar course will emphasize and reinforce important job searching skills including resume writing, interviewing techniques, job searches, communicating with employers before and after interviews, and social media management. This course will also introduce and emphasize critical thinking, research, and presentation skills that are needed for special projects in hospitality firms. After successfully completing the course, student will be able to search and secure an internship/professional position and to design, execute, and present a job related project in a hospitality firm.

Repeat for Credit
N

Requisites
Prerequisite: STAT 250; HM 101; Junior Standing. Co-requisite: HM 375

Typically Offered
Fall, Spring

HM 303 - Operational Research in the Hospitality Industry

Credits: 3

An applied research course for hospitality operations examining researchable ideas, data collection methods, data analysis, and interpretation and presentation of data, based on activities that occur in food and beverage, lodging, and event operations.

Repeat for Credit
N

Requisites
Prerequisite: STAT 250

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

HM 321 - Hospitality Service Systems

Credits: 3

Examination of the complexities of leading quality and service within all segments of the hospitality industry. A focus on developing leadership, problem solving and process management skills, work methods, team development, and evaluation of service systems.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

HM 331 - Resort and Club Management

Credits: 3

Exploration of the topics involved in resort and private club management, including operations, ownership and management structures, history and current trends, food and beverage service, marketing, and financial management.Exploration of topics involved in club management. Topics discussed are history and current trends of public and private clubs, food and beverage service, marketing, and event and financial management.

Repeat for Credit
N

Typically Offered
Fall

HM 341 - Principles of Food Production Management

Credits: 3

Basic principles and theories of foodservice systems; menu planning; development, standardization, adjustment, and

costing of quantity recipes; procurement and production of quality food; foodservice computer applications.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Fall, Spring

HM 351 - Commercial Food Production Management

Credits: 3

Applications of principles of commercial food production and hospitality service management systems, including procurement, production, and service in a commercial foodservice system; quality and cost controls, employee performance evaluation, process improvement (i.e., work simplification, motion economy), and commercial foodservice equipment operation in the program's commercial foodservice facility.

Repeat for Credit
N

Requisites
Prerequisite: HM 205 or ServSafe Certification

Typically Offered
Fall, Spring

HM 361 - Hotel Operations

Credits: 3

The development of the lodging industry and current trends. Organization and administration of hotel operations including front desk, housekeeping, laundry, sales/marketing, management, and other positions common to hotel operations.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Spring

HM 362 - Lodging Practicum

Credits: 1

Supervised experiences in the operational areas of a lodging property.

Repeat for Credit
N

Requisites
Prerequisite: HM 361 or concurrent enrollment.

Typically Offered
Fall, Spring

HM 363 - Event Management

Credits: 3

This course introduces students to the key players and potential careers in the meeting and event industry. Students will explore various perspectives and responsibilities of event planners. Additionally, basic core concepts essential for planning a meeting will be discussed.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Fall

HM 370 - The Business of Wedding Consulting

Credits: 3

This course will introduce the student to the competencies required to become a professional wedding consultant. Students will analyze essential services that provide the necessary infrastructure for a wedding event and will examine the business, creative, and practical aspects of coordinating the wedding environment.

Repeat for Credit
N

Typically Offered
Fall

HM 375 - Hospitality Work Experience II

Credits: 1

A 300-hour planned experience that combines observation, and employment within a hospitality operation. Must be completed in the student's declared track.

Repeat for Credit
N

Requisites
Prerequisite: HM 275; Consent of academic advisor. Co-requisite: HM 341, HM 361, or HM 363.

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility

HM 422 - Cost Controls in Hospitality Operations

Credits: 3

Application of accounting principles to analyze control measures used in lodging meeting/conventions/events, and commercial and noncommercial foodservice operations. Includes managerial, financial, and ethical considerations associated with procurement and human resources.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 231; HM 341.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

HM 423 - Facility Management

Credits: 3

Evaluation and selection of equipment, maintenance contracts, layout, design, sustainability of hospitality operations, facility renovation, and selection of consultants. Assessment of safety and security measures and development of risk management programs to increase guest/customer safety.

Note
The course is offered during Fall semester on the Olathe campus and Spring semester on the Manhattan campus.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

HM 424 - Hospitality Sales and Promotion

Credits: 3

This course guides the student to explore and understand successful sales and sales management behaviors in the hospitality industry. This course will focus on relational selling and include both asking for sales and being a hotel sales manager. Students will develop a comprehension in selling approaches, conversations and presentations, and sales management techniques. Course topics will include hotel sales structures, duties and responsibilities, sales forms, relationships, prospecting, sales call planning, communicating the message, closing the sale, as well as how to motivate, compensate and train sales people specific to the hospitality industry.

Repeat for Credit
N

Requisites
Prerequisite: MKTG 250.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives

HM 426 - Fundraising and Nonprofit Events

Credits: 3

This course introduces students to the basics of fundraising and nonprofit events. Students will gain an understanding of the similarities and differences across nonprofit events and the key elements that make them successful. Students

will build and develop a plan for all facets of fundraising or nonprofit events.

Repeat for Credit
N

Requisites
Prerequisite: HM 363

Typically Offered
Fall

HM 427 - Travel and Dining Auction Event Management

Credits: 3

Application of event planning principles by analyzing previous travel and dining auctions, managing and executing the current year's travel and dining auction, and evaluating the results.

Note
Consent of School

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

HM 430 - Study Abroad Experience in Hospitality Management

Credits: 1-3

A Faculty-led Study Abroad Experience in Hospitality Management.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives

HM 440 - Beverage Management

Credits: 3

The study of historic, social, ethical, physiological, and legal issues relating to alcoholic beverage service and use in contemporary America with emphasis on responsible and knowledgeable service of beer, wine, and spirits in hospitality operations. Course will include beverage tasting and sensory analysis of products commonly served in the beverage industry. Must be 21 years of age to enroll in the course.

Note
100% Lecture and 50% Lab. 21 years of age or older.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility

HM 442 - Introduction to Wines

Credits: 1

Overview of wine varietals and major wine regions of the world, tasting and identifying wine varietals based on their specific characteristics, proper purchasing and service of wines, and using wines to complement foods.

Note
21 years of age or olders.

Repeat for Credit
N

Typically Offered
Fall, Spring

HM 462 - Advanced Wines

Credits: 1

An in-depth look at specific wine producing regions and sub-regions, a critical view of wines that define these regions, and preparation for service of wine in the hospitality industry.

Repeat for Credit
N

Requisites
Prerequisite: HM 440 or HM 442, and 21 years of age or older.

Typically Offered
Fall, Spring

HM 463 - Business Event Coordination

Credits: 3

In this course, students will plan a theoretical event from start to completion and learn details pertinent to the organization and execution of a business meeting. Topics include objectives, timelines, finance and contracts, site selection, program development, marketing, and evaluation.

Repeat for Credit
N

Requisites
Prerequisite: HM 363

Typically Offered
Spring

HM 464 - Revenue Management

Credits: 3

Application of revenue management, capacity management, duration control, pricing, and discounting as utilized in the hotel, restaurant, theme park, and car rental industries. Comprehensive examination of the complex factors that influence revenue management strategies and tactics in order to improve decision making and maximize revenue.

Repeat for Credit
N

Requisites
Prerequisite: HM 361, Junior standing.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

HM 465 - Catering and Banquet Management

Credits: 3

Application and principles of catering management, including off-site and on-site functions. Organizational, logistical, aesthetic, and marketing aspects of the catering industry will be utilized and applied.

Repeat for Credit
N

Typically Offered
Fall

HM 475 - Internship in Hospitality Management

Credits: 3

Planned and supervised experience in a foodservice or hospitality operation; minimum of 400 hours.

Repeat for Credit
N

Requisites
Prerequisite: For HM majors and minors only, junior standing, HM 303, 500 hours of documented paid or volunteer experience in the hospitality industry, consent of instructor.

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility

HM 482 - Human Resource Management in the Hospitality Industry

Credits: 3

A focus on the role of the hospitality manager in facilitating, training, and motivating employees. Discussion and analysis of methods to attract, select, develop, motivate, and retain quality employees to promote competitive organizational advantage in the hospitality industry.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.

HM 499 - Problems in Hospitality Management

Credits: 1-18

Independent study under the supervision of a faculty member.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

HM 504 - Fair and Festival Management

Credits: 3

Examination of fairs, festivals, and special events. Understanding of the similarities and differences across different event types and the key elements that make them successful.

Repeat for Credit
N

Typically Offered
Fall

HM 621 - Hospitality Law

Credits: 3

Legal aspects of managing hospitality operations and responsibilities for the operations, patron civil rights, governmental regulations, franchising, and commercial transactions.

Repeat for Credit
N

Requisites
Prerequisite: HM 475.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

HM 624 - Procurement in the Hospitality Industry

Credits: 2

Principles and theories of procurement of food and supplies for hospitality operations. Includes management, financial, safety, and ethical considerations in the procurement process.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 442.

Typically Offered
On sufficient demand

K-State 8
Ethical Reasoning and Responsibility

HM 640 - Entrepreneurship in Hospitality Management

Credits: 3

Development and management of small businesses or private practice within the hospitality industry. Business plan development, marketing, cost considerations. Overview of consulting to healthcare and hospitality operations and examination of skills required for success.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 231.

Typically Offered
Spring-Even Years

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

HM 650 - Senior Seminar in Hospitality Management

Credits: 3

The application of critical thinking skills to explore hospitality management problems and perspectives. Decision-making tools will integrate marketing, human resources, diversity, ethics, leadership, team work, strategic management, and financial performance for food service, lodging, and event management.

Repeat for Credit
N

Requisites
Prerequisite: Senior Standing

Typically Offered
Spring

HM 662 - Foodservice Systems Management

Credits: 3

A capstone course in foodservice management that focuses on the management, analysis, and evaluation of food and beverage systems. Emphasis on planning, coordinating, and improving commercial and noncommercial operations. Development of analytical and decision-making skills for solving managerial and operational problems.

Repeat for Credit
N

Requisites
Prerequisite: HM 351 and HM 375. Recommended Foundation Course: HM 422 and HM 475.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

HM 663 - Business Event Management

Credits: 3

A capstone course in meeting and event management. This course will provide students with an opportunity to integrate knowledge, concepts and capacities from different parts of their learning experiences into real-world event planning experiences. This course will enable students to plan an event from initial conception to final evaluation.

Repeat for Credit
N

Requisites
Prerequisite: Senior Standing. Recommended Foundation Course: HM 475

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

HM 664 - Advanced Hotel Operations

Credits: 3

This senior-level course provides students the opportunity to utilize a strategic management process as a decision-making tool that integrates marketing, human resources, operations, and financial performance measures. This is a computer simulation class, where teams will compete with each other in real-time to understand and evaluate the market dynamics of a competitive set of hotels.

Repeat for Credit
N

Requisites
Prerequisite: HM 464, Senior Standing.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

HM 665 - Casino Management

Credits: 3

Investigation of the histories and overall operations of casino properties and their impacts on the foodservice and hospitality industry from the social, economic, political and environmental perspectives.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing, 60 credit hours or more.

Typically Offered
Fall

HM 705 - Information Technology Systems in Hospitality Operations

Credits: 3

Review of computer development in foodservice and hospitality operations; development of criteria for implementation of a computer system; analysis of foodservice and hospitality hardware and software.

Repeat for Credit
N

Requisites
Prerequisite: CIS 101; and HM 480 or HM 560 or MANGT 220.

Typically Offered
Other

HM 710 - Readings in Hospitality Administration

Credits: 1-3

Directed study of current literature in hospitality management and related areas.

Repeat for Credit
Y

Requisites
Prerequisite: FNDH 543 or MANGT 220.

Typically Offered
Fall, Spring, Summer

HM 730 - Advanced Service Management

Credits: 3

Explores advanced service management strategies involved in optimizing the guest experience in service-intensive industries, with a focus on optimizing operations and driving operational efficiency.

Repeat for Credit
N

Typically Offered
Fall

HM 785 - Practicum in Hospitality Management

Credits: 1-6

Professional experiences in approved foodservice organization as a member of the management team under faculty supervision.

Repeat for Credit
Y

Requisites
Prerequisite or concurrent: HM 342; and HM 480 or HM 560 or MANGT 220.

Typically Offered
Fall, Spring, Summer

HM 800 - Topics in Hospitality Management

Credits: 1-3

Presentation of timely, cutting-edge material pertinent to professional practice in hospitality management and dietetics.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HM 805 - Advanced Foodservice Management

Credits: 3

Production planning and controls in foodservice systems analysis in foodservice systems. Decision optimization and systems analysis in foodservice organizations. Consideration of various types of foodservice systems.

Repeat for Credit

Y

Requisites
Prerequisite: HM 662 and MANGT 220 or equivalent.

Typically Offered
Fall-Odd Years

HM 810 - Research Techniques in Hospitality Management

Credits: 3

Survey and application of research methodology in foodservice and hospitality management.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 702 or STAT 703.

Typically Offered
Spring

HM 815 - Advanced Lodging Management

Credits: 3

This course provides an introduction to conceptual and empirical research in the lodging industry and academic discipline. The course will familiarize students with the historical streams of lodging-focused research and introduce them to the current methods, trends, theory, and application of research in the lodging industry.

Repeat for Credit
N

Requisites
Prerequisite: HM 664 or equivalent.

Typically Offered
Fall-Odd Years

HM 820 - Problems in Hospitality Management

Credits: 1-18

Individual investigation of problems in foodservice and hospitality management. Conferences and reports at appointed hours.

Repeat for Credit
Y

Requisites
Prerequisite: HM 342; and HM 480 or HM 560 or MANGT 400.

Typically Offered
Fall, Spring, Summer

HM 825 - Advanced Meetings and Business Event Management

Credits: 3

This three-hour seminar course will expose students to a variety of higher level event management concepts. By the end of the course, students will be able to complete executive tasks, conduct effective event management research, incorporate findings into applicable strategic plans for the future, and disseminate knowledge to educators, industry, and executives.

Repeat for Credit
N

Requisites
Prerequisite: HM 663 or equivalent.

Typically Offered
Fall-Even Years

HM 835 - Survey of Research in Hospitality Management

Credits: 3

Explores classic and contemporary research to introduce research topics and trends in the hospitality discipline. Underlying theories, research designs, and industry implications of both theoretical and empirical research will be analyzed and critiqued.

Repeat for Credit
N

Requisites
Prerequisite: Required for Master's students only

Typically Offered
Fall-Even Years

HM 885 - Seminar in Hospitality Administration

Credits: 1

Discussions of research related to foodservice and hospitality management.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HM 890 - Administration of Hospitality Organizations

Credits: 3

Advanced study of management applied to foodservice and hospitality organizations.

Repeat for Credit
Y

Requisites
Prerequisite: MANGT 220.

Typically Offered
Fall

HM 895 - Financial Management and Cost Controls for the Hospitality Industry

Credits: 3

Overview of fundamental knowledge of financial management, managerial accounting and operational cost controls for the hospitality industry. Important topics include review of managerial accounting concepts based on the Uniform System of Accounts for the Lodging Industry, value and risk analyses, budgeting, asset management, expansion via franchising and management contracts, cost-volume-profit analyses, and operational applications for financial performance.

Repeat for Credit
Y

Requisites
Prerequisite: A basic financial or managerial accounting course

Typically Offered
Fall-Odd Years

HM 899 - Research in Hospitality Administration

Credits: 1-18

Individual research which may form the basis for master's report or thesis.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HM 905 - Advanced Hospitality Strategic Management

Credits: 3

Through lecture, case and literature review and analysis, and projects; Advanced Hospitality Strategic Management introduces students to empirical research in hospitality strategic management and is designed to improve knowledge and abilities to analyze and apply different perspectives of strategic management in the hospitality industry. Topics include but are not limited to environmental scanning techniques, value chain analyses, strategies of choice in variety of business levels, implementation strategies, and maximizing effectiveness of strategic management.

Repeat for Credit
N

Requisites
Prerequisite: HM 895, Instructor consent required. Other Requirements: An undergraduate or master's level strategic management course is recommended.

Typically Offered
Spring-Even Years

HM 975 - Research and Applied Theories in Hospitality Management

Credits: 3

Critique of theoretical constructs and research applications in the study in foodservice and hospitality management. Emphasis on preliminary stages of research development including preparation of literature reviews and preliminary proposals for research.

Repeat for Credit
Y

Typically Offered
Fall-Even Years

HM 980 - Higher Education in Hospitality Management

Credits: 3

An in-depth study of the higher education system in hospitality administration and professional development that prepares for a successful scholar/educator in hospitality education.

Repeat for Credit
Y

Requisites
Prerequisite: EDCEP 927 and consent of instructor.

Typically Offered
Spring-Odd Years

HM 985 - Advances in Hospitality Management

Credits: 3

Analysis of selected topics and research in foodservice and hospitality management.

Repeat for Credit
Y

Requisites
Prerequisite: HM 810 and consent of instructor.

Typically Offered
Other

HM 990 - Dissertation Proposal Seminar

Credits: 1

Presentation and discussion of proposals for dissertation research.

Repeat for Credit
Y

Requisites
Prerequisite: Six hours of statistics, 3 hours of research design or methods, and consent of major professor.

Typically Offered
Fall, Spring, Summer

HM 993 - Teaching Practicum in Hospitality Management

Credits: 3

This course is designed to serve as a culminating experience in which students apply the teaching and learning strategies learned in coursework through practice in the higher education classroom. In addition to teaching a subsection of a current course, weekly meetings will discuss relevant topics that affect instructors in the classroom environment.

Note
Consent of School

Repeat for Credit
N

Requisites
Prerequisite: EDCI 943

Typically Offered
Fall, Spring

HM 995 - Grantsmanship and Publication

Credits: 3

Grant writing, identifying external funding, managing grants, preparing manuscripts for peer-reviewed publication, and preparing papers and poster for presentation at professional meetings.

Note
Graduate level research methods class.

Repeat for Credit

Y

Typically Offered
Spring-Odd Years

HM 999 - Research in Hospitality Administration

Credits: 1-18

Research in hospitality management for the doctoral dissertation.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HNR 101 - Introduction to Horticulture and Natural Resources

Credits: 1

This course is an introduction to the Horticulture and Natural Resource department. It is designed to assist students in developing skills and an awareness of resources to promote a successful college experience and prepare them for future career opportunities within the HNR fields.

Repeat for Credit
N

Typically Offered
Fall, Spring

HNR 115 - Special Topics in Horticulture and Natural Resources

Credits: 1-6

Discussion and lectures on selected topic areas related to Horticulture and Natural Resources

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HNR 140 - Horticulture and Natural Resources Problems

Credits: 0-3

Problems and reports in horticulture, park management and conservation, or wildlife and outdoor enterprise management.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HNR 390 - Horticulture and Natural Resources Topics

Credits: 1-18

Lectures and discussion of topics of importance to undergraduate majors in horticulture, park management and conservation, or wildlife and outdoor enterprise management.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HNR 440 - Advanced Horticulture and Natural Resources Problems

Credits: 0-3

Advanced problems and reports in horticulture, park management and conservation, or wildlife and outdoor enterprise management.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HNR 899 - Masters Research

Credits: 1-18

Investigations in horticulture, park management and conservation, or wildlife and outdoor enterprise management for preparation of master's thesis.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HNR 999 - PhD Research

Credits: 1-18

Investigations in horticulture, park management and conservation, or wildlife and outdoor enterprise management. Data collected may form basis for a thesis or dissertation.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HORT 190 - Preparing for Your Horticulture Career

Credits: 1

This course is designed to assist students in their personal and professional development. Specifically, students will gain an appreciation for the significance of the horticultural industry while acquiring various skills necessary for a rewarding internship experience and their future professional career. Students will also develop an understanding, awareness and empathy of human diversity as it relates to each individual and the world around them.

Note
One hour lecture per week.

Repeat for Credit
N

Typically Offered
Fall

HORT 201 - Principles of Horticultural Science

Credits: 4

The basic principles of plant science and the environment that apply to horticulture; survey of the industry; plant taxonomy, anatomy, morphology, and physiology; environment and plant growth; plant propagation, pest management, plant breeding.

Note
Three hours lecture and two hours lab a week.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
4 Natural and Physical Sciences

K-State 8
Natural and Physical Sciences

HORT 202 - Principles of Horticultural Science Lab

Credits: 1

The lab for basic principles of plant science and the environment that apply to horticulture; survey of the industry; plant taxonomy, anatomy, morphology, and physiology; environment and plant growth; plant propagation, pest management, plant breeding.

Note
Two hours lab a week

Repeat for Credit
N

Requisites
Corequisite: HORT 201

Typically Offered
Fall, Spring

HORT 210 - Concepts of Floral Design

Credits: 3

An introduction to the use of flowers and related products with emphasis on fundamentals of design.

Note
Two hours lecture and three hours lab a week. For majors or non-majors.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

HORT 256 - Human Dimensions of Horticulture

Credits: 3

Introduction to horticulture applied in schools, psychiatric and medical hospitals, corrections, vocational rehabilitation centers, elderly programs, and consumer horticulture settings. Networking the art and science of horticulture with architecture, business, social sciences, health care, horticulture, and education.

Note
Two hours lecture and one hour recitation a week.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

HORT 274 - Landscape Plants I

Credits: 3

An introduction to landscape plant identification of trees, shrubs, and cultivated herbaceous cultivated plants, including perennials, annuals, biennials, and bulbs. Topics covered in the course include classification and nomenclature, plant growth characteristics and their landscape use. Weekly labs consist of lengthy walking campus tours to observe and identify plant specimens. A field trip may be required.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Recommended Prerequisite: BIOL 198 or HORT 201 or AGRON 120.

Typically Offered
Fall

HORT 275 - Horticultural Design I

Credits: 3

Introduction to the landscape design process including historical perspectives and contemporary issues; development of planning, graphical presentation, and communication skills; and application of design principles to horticultural garden design.

Note
Two hours lecture and two hours lab per week.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

HORT 282 - Foundations of Horticultural Pest Management

Credits: 1

Pesticide use and handling, horticultural pesticides and their characteristics, integrated pest management approaches, and pesticide applicator certification.

Note
One hour lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore Standing
Recommended prerequisite: HORT 201 and an entomology, plant pathology, or weed science course.

Typically Offered
Spring

HORT 300 - Plants and Society

Credits: 3

Provides a perspective of horticulture plants and their importance in society and how they are intertwined with everyday activities. Fosters student well-being, highlighting and emphasizing the art and science of growing and using plants to enhance and improve one's environment, through hands-on learning opportunities, while engaging in the plant world.

Repeat for Credit
N

Requisites
Prerequisite: Non-majors only.

Typically Offered
Other

K-State 8
Natural and Physical Sciences
Historical Perspectives

HORT 301 - Horticulture Practicum

Credits: 1-3

Experiential approach to learning horticulture through teaching. Students will assist faculty with specific horticulture courses.

Note
No more than 3 credits may be used as horticulture specialization electives nor may it substitute for a required horticulture course in the horticulture or horticultural therapy curricula.

Repeat for Credit
N

Requisites
Prerequisite: HORT 201, junior standing, and successful completion of practicum assistance course with at least a C.

Typically Offered
Fall, Spring

HORT 325 - Introduction to Organic Farming

Credits: 2

This class will cover the history of organic farming principles, practices, and policies. USDA standards will be compared to similar standards in other countries, and to "green labels" that compete with organic products in the marketplace. Industry trends as well as the basics of how to certify farms and food processors will be included.

Note
One hour lecture and two hours lab a week.

Repeat for Credit
N

Typically Offered
Fall-Even Years

K-State 8
Ethical Reasoning and Responsibility

HORT 350 - Plant Propagation

Credits: 3

Designed to develop proficiency in various skills and techniques necessary for propagation of horticultural plants. Basic fundamentals of seed structure and vegetative makeup of plants are emphasized.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: HORT 201 or BIOL 198

Typically Offered
Spring

HORT 360 - Public Horticulture

Credits: 3

In-depth presentation and discussion of techniques and requirements for the management and administration of a public horticultural facility. Topics include oral and written presentation skills, proposal development, public relations, budgeting, fundraising, dealing with governing boards, interpersonal relationships and managing horticultural operations.

Note
Three hours lecture a week.

Repeat for Credit
N

Typically Offered
Spring

HORT 375 - Landscape Plants II

Credits: 3

Continued identification of cultivated landscape tree, shrubs, and herbaceous plants, including perennials, annuals, biennials, and bulbs. Topics covered in the course include classification and botanical nomenclature, plant growth characteristics and their landscape use.

Note
Weekly labs consist of lengthy walking campus tours to observe and identify plant specimens. A field trip may be required. Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: HORT 274.

Typically Offered
Spring-Even Years

HORT 377 - Interior Plantscaping

Credits: 3

A study of the interior plantscaping industry to include identification of plants used in interior environments; designing, installing and maintaining interiorscapes and green walls; and managing interior plantscaping businesses.

Note
One three-hour lab and one two-hour lecture/studio a week.

Repeat for Credit
N

Requisites
Prerequisite: HORT 201.

Typically Offered
Fall-Even Years

HORT 390 - Horticulture Topics

Credits: 1-18

Lectures and discussion of topics of importance to undergraduate majors.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HORT 391 - Independent Study in Floral Design

Credits: 3

Independent, supervised study of a topic related to floral design.

Repeat for Credit
N

Typically Offered
Fall, Spring

HORT 405 - Water Issues in the Lawn and Landscape

Credits: 3

This course will examine critical water issues related to irrigation in urbanizing watersheds, with an emphasis on water quality and quantity. Factors impacting water scarcity and quality will be discussed. Successful completion of this course will help students understand the interrelatedness of incorrect irrigation practices and water quality/quantity, and will equip them to help protect water resources through application of science based irrigation practices.

Note
This is a distance education course.

Repeat for Credit
N

Requisites
Recommended Foundation: Junior standing or one year of experience in the lawn/landscape maintenance industry.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Natural and Physical Sciences

HORT 410 - Floral Planning for Special Events

Credits: 1

Operation of a successful event planning floral business for weddings and other special occasions with a focus on the consultation and proposal plan.

Note
Two hours lecture and two hours lab a week for first 5 weeks of the semester.

Repeat for Credit
N

Requisites
Prerequisite: HORT 210

Typically Offered
Spring-Even Years

HORT 415 - Wedding Flowers

Credits: 1

Creation of custom wedding designs such as bridal bouquets, corsages/boutonnieres, altar arrangements, and centerpieces based on parameters established during consultations and present trends.

Note
Two hours lecture and two hours lab a week, second five weeks of the semester.

Repeat for Credit
N

Requisites
Prerequisite: HORT 210.

Typically Offered
Spring-Even Years

HORT 420 - Unique Floral Designs

Credits: 1

Application of advanced principles and techniques of floral design in the creation of unique arrangements utilizing standard and nonstandard supplies in an artistic way.

Note
Two hours lecture and two hours lab a week, last five weeks of the semester.

Repeat for Credit
N

Requisites
Prerequisite: HORT 210.

Typically Offered
Spring-Even Years

HORT 490 - Horticulture Internship

Credits: 3-6

Principles of commercial or public horticulture activity including exposure to multiple phases of the working horticulture operation.

Note
Students will be placed according to specific interest. Required for horticulture majors after having completed 60 hours.

Repeat for Credit
Y

Requisites
Recommended Foundation Courses: HORT 190, HORT 201, plus one horticulture commodity course level 300 or above.

Typically Offered
Fall, Spring, Summer

HORT 495 - Undergraduate Research in Horticulture

Credits: 0-3

Undergraduate students work with faculty mentors on projects involving various elements of research in horticultural science including identifying a problem, designing and conducting experiments, interpreting and communicating the research results. The completed project must be presented at a professional forum, and students are required to write a final project report on completion of their project.

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HORT 499 - The Horticultural Professional

Credits: 0

Completion of horticulture program assessment tools. Completion of modules associated with professional development during careers in horticultural disciplines, including diversity and ethics in the workplace, job search skills, and providing leadership in the profession.

Repeat for Credit
N

Typically Offered
Fall, Spring

HORT 508 - Business of Sustainable Landscape Management

Credits: 2

Understanding and implementing maintenance requirements for the care of young trees, shrubs and herbaceous plants that focus on practices that address environmental issues related to the management of residential and commercial landscapes. Students will learn how to analyze and apply landscape management practices while creating an attractive landscape in balance with the local climate that requires minimal resource inputs, such as human energy, fertilizers, pesticides and water.

Repeat for Credit
N

Requisites
Recommended Foundation Course: HORT 201

Typically Offered
Spring

HORT 510 - Horticultural Design II

Credits: 3

Reinforcement of the horticultural design process as applied to the use of native and introduced plant materials. Emphasis on functional and aesthetic arrangement of plants in small-scale design to meet site design objectives and adaptation to microclimates. Students expected to develop site adapted plant palettes and graphic ability to present their design.

Note
Two three-hour studio periods a week.

Repeat for Credit
N

Requisites
Prerequisite: HORT 275 and two plant materials courses.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

HORT 515 - Basic Turfgrass Culture

Credits: 3

Turfgrass identification and adaptation; establishment and maintenance of turf for golf courses, sports fields, home lawns, parks, and commercial/institutional grounds.

Note
Two hours recitation and two hours lab a week.

Repeat for Credit
N

Requisites

Recommended Foundation Courses: HORT 201 and AGRON 205.

Typically Offered
Spring

K-State 8
Natural and Physical Sciences

HORT 517 - Golf Course and Sports Turf Operations

Credits: 3

Strategies involved in golf course and sports turf operation, including development of cultural practices, effective communication, personnel management, and budgeting.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: HORT 515.

Typically Offered
Fall

HORT 520 - Fruit Production

Credits: 3

Principles and practices of cultivating fruit and nut crops commercially. Laboratory offers experiences in pomological practices.

Note
Two hours recitation and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: HORT 201 or equivalent. Recommended Foundation Course: HORT 350.

Typically Offered
Spring-Odd Years

Natural and Physical Sciences

HORT 525 - Horticulture for Special Populations

Credits: 3

An intensive study of the concepts and methods of using plants and gardening as therapeutic activities with developmentally disabled, geriatric, economically and socially disadvantaged, emotionally disturbed, or educationally deprived clients.

Note
Two hours recitation and two hours lab a week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

HORT 530 - Horticultural Therapy Case Management

Credits: 1

Guest lecturer and student presentations of topics relating to professionalism, current issues, or goals of horticultural therapy. The course is intended to help students focus expectations and assumptions about a professional career in horticultural therapy and to give them practice in articulating their understanding of the field. Client case management is used as part of career practice.

Note
One hour recitation a week.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

HORT 535 - Horticultural Therapy Field Techniques

Credits: 3

Students under supervision will plan, conduct, and evaluate horticultural therapy activities at Manhattan institutional sites selected according to student's interest. A weekly discussion session addresses evaluation and issues of professionalism.

Note
Two hours recitation and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: HORT 525.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

HORT 540 - Horticultural Therapy Field Experiences

Credits: 3-6

Supervised training at institutions with horticultural therapy programs to gain experience in the application and use of horticultural activities for special populations. Six months (1,000) hours continuous internships required in psychiatric and correctional programs.

Note
Two 3-month (500 hours) internships may be completed at two different sites. Students are required to complete 6 credits of field experience before graduation.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

HORT 545 - Computer Applications in Horticultural Design

Credits: 3

Introduction to a variety of computer software packages that students may encounter in the nursery/garden center environment. These include planning, routing, and estimating packages.

Note
Students must provide their own laptop computer.

One hour recitation and four hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: HORT 510, or instructor permission.

Typically Offered
Fall

HORT 550 - Horticultural Irrigation Systems

Credits: 3

Application of the principles and practices of horticultural irrigation which involve the various aspects of irrigation system installation, maintenance and scheduling, electrical troubleshooting, basic hydraulics, and drip irrigation as these topics pertain to residential and commercial landscapes, recreational turf areas, and greenhouse and field production systems.

Note
Two hour lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: MATH 100; HORT 201; and AGRON 205.

Typically Offered
Fall

HORT 551 - Landscape Contracting and Construction

Credits: 2

The study of contracts and specifications, and the bidding and estimating processes as applied to landscape

contracting. The interpretation and implementation of small-scale landscape construction (hardscape) projects.

Note
1 hour lecture and 2 hours lab a week

Repeat for Credit
N

Requisites
Recommended Foundation Course: HORT 275.

Typically Offered
Fall

HORT 552 - Horticultural Landscape Construction

Credits: 1

The interpretation and implementation of small-scale landscape construction (hardscape) projects.

Note
Three hours lab a week, for the last 11 weeks of the semester.

Repeat for Credit
N

Requisites
Recommended Foundation Course: HORT 275.

Typically Offered
Spring

HORT 560 - Vegetable Crop Production

Credits: 3

Study of production principles and cultural practices involved in the growing of vegetable crops.

Note
Two hours lecture and two hours lab or field trips a week.

Repeat for Credit
N

Requisites
Prerequisite: HORT 201.

Typically Offered
Spring-Even Years

Natural and Physical Sciences

HORT 570 - Greenhouse Operations Management

Credits: 3

Greenhouse systems operations and management including greenhouse layout; structures; glazing materials; heating, ventilation, irrigation, lighting, benching, growing medium handling, and fertilization systems; traffic flow; crop handling, processing and shipping.

Note
Two hours recitation and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: HORT 201.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

HORT 575 - Nursery Management

Credits: 3

A study of the various practices and methods of operating a commercial nursery for the production of woody ornamental plants for the landscaping industry. Nursery layout, planting systems, nutrition management, plant maintenance, and harvesting technologies will be discussed.

Note
Two hours lecture and three hours lab a week. Field trips may be required.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: HORT 350 and AGRON 205.

Typically Offered

Fall

Natural and Physical Sciences

HORT 580 - Advanced Horticultural Design

Credits: 3

Emphasis is on horticultural design projects with clients, working with the design process, design articulation and communication with the clients.

Repeat for Credit
N

Requisites
Prerequisite: HORT 510.

Typically Offered
Other

K-State 8
Aesthetic Interpretation

HORT 585 - Arboriculture

Credits: 3

Principles and practices of maintaining shade and ornamental trees under urban environments.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: HORT 201; and HORT 274 or FOR 330.

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

HORT 587 - Turfgrass Diseases and Their Management

Credits: 1

Biology, diagnosis and integrated management of turfgrass diseases. Emphasis is on diseases of intensively maintained turfgrass.

Note
Two hours lecture and two hours lab a week, for the first five weeks of the semester.

Repeat for Credit
N

Requisites
Prerequisite: HORT 282

Typically Offered
Fall-Even Years

K-State 8
Natural and Physical Sciences

HORT 588 - Turfgrass Weeds and Their Management

Credits: 1

Biology, diagnosis and integrated management of turfgrass weeds.

Note
Two hours lecture and two hours lab a week, for the middle five weeks of the semester.

Repeat for Credit
N

Requisites
Corequisite or Prerequisite: HORT 282 and HORT 515

Typically Offered
Fall-Even Years

K-State 8
Natural and Physical Sciences

HORT 589 - Turfgrass Insects and Their Management

Credits: 1

Biology, diagnosis and integrated management of turfgrass insect pests.

Note
Two hours lecture and two hours lab a week, for the last

five weeks of the semester.

Repeat for Credit
N

Requisites
Corequisite or Prerequisite: HORT 282 and HORT 515

Typically Offered
Fall-Even Years

K-State 8
Natural and Physical Sciences

HORT 591 - Small Farm Practicum

Credits: 3

Project-based practical experience in small-scale, diversified, agricultural production.

Repeat for Credit
N

Requisites
Recommended Foundation Course: HORT 520, or HORT 560 or HORT 570

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility

HORT 595 - Horticulture Study Abroad

Credits: 3

Seminar and travel course designed to prepare students before an international study abroad experience focused on horticulture. Upon completion of travel, students will analyze, critique, and report their experiences. In addition, students will be introduced and immersed in historical components, both disciplinary and culturally.

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Historical Perspectives

HORT 600 - Herbaceous Plant Production

Credits: 3

The principles and commercial practices for producing annual and herbaceous perennial plants from seed and cuttings, including vegetable and herb crops in controlled environments. Analysis of crop production costs and plant growth regulation will be emphasized.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: HORT 350 and HORT 570.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

HORT 625 - Floral Crops Production and Handling

Credits: 2

The principles and commercial practices for producing floral potted crops and fresh flowers crops, emphasizing the physical responses of plants to their environment. Aspects of postharvest physiology of fresh flowers will be covered.

Note
One hour recitation and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: HORT 201. Recommended Foundation courses: HORT 350, BIOL 500, and HORT 570.

Typically Offered
Spring-Odd Years

Global Issues and Perspectives

HORT 630 - General Viticulture

Credits: 3

Focus is on aspects of grapes, from vine anatomy to final products produced from them. Includes cultivars, propagation, canopy management, diseases, weed control, physiology, anatomy, irrigation, wine production, climates and soils.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: HORT 520.

Typically Offered
Spring-Odd Years

HORT 640 - Horticultural Problems

Credits: 0-3

Problems and reports in floriculture, olericulture, ornamental horticulture, pomology, turfgrass and horticultural therapy.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HORT 650 - Agrarian Traditions: Literature Shaping Modern Food Movements

Credits: 3

Examines the Agrarian literary and philosophical traditions to better understand the drivers of food and agriculture movements in the United States and globally. Studies Virgil, Sir Albert Howard, Aldo Leopold, and Wendell Berry, among others. Analyzes texts both within their historical contexts and as they apply to modern food movements.

Repeat for Credit
Y

Requisites
Prerequisite or Corequisite: ENGL 200 and Junior standing.

Typically Offered
Fall-Even Years

K-State 8
Historical Perspectives

HORT 695 - Introduction to Permaculture

Credits: 3

Exploration of a thinking/design methodology that seeks to provide for the physical needs of humans, including food, water, shelter, energy, etc. while doing so in an environmentally-friendly, sustainable manner.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: HORT 201 and HORT 275.

Typically Offered
Fall-Odd Years

HORT 705 - Hydroponic Food Production

Credits: 3

This hands-on course explores hydroponic growing methods both regionally and internationally, incorporating production of tomatoes, cucumbers, peppers, leafy greens, herbs, microgreens, and berries into a variety of production systems used in controlled environment agriculture. Topics will also include sustainability of the systems and an introduction to safe food handling practices.

Repeat for Credit
N

Requisites
Requisite: Junior standing or consent of Instructor. Recommended Foundation Course: HORT 570.

Typically Offered
Spring-Even Years

HORT 706 - Advanced Culture of Golf and Sports Turf

Credits: 3

Advanced topics in golf and sports turf maintenance focusing on construction methods and management of abiotic and biotic stresses.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: HORT 515.

Typically Offered
Fall

HORT 710 - Plant Cell, Tissue and Organ Culture

Credits: 3

Course will cover the principles and laboratory exercises that demonstrate major concepts and practical techniques in plant cell, tissue and organ culture. The history and use of plant cell-, tissue-, and organ-culture for crop improvement will be explained. The variety of tissue-culture techniques will be highlighted. Selected readings and practical tissue culture projects will be required.

Note
Two hours lecture and three hours lab per week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: HORT 350.

Typically Offered
Spring

HORT 715 - Advanced Interiorscaping

Credits: 3

Focus is the physiological principles and industry practices in the production, moving, care, and maintenance of interior plants. This course will provide students the career tools to design, install and maintain interior plantscapes through knowledge of interior plant physiology, care and maintenance.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: HORT 201 and BIOL 500.

Typically Offered
Spring-Even Years

HORT 720 - Environmental Nursery Production

Credits: 3

Cultural practices used with nursery production will be presented with focus on the adoption of best management practices, conservation of resources, scientific research-based investigations related to nursery cultural practices, potential risks to nursery personnel, and off-site movement of air-borne materials and effluents to surrounding areas and public watersheds.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: HORT 575.

Typically Offered
Spring-Odd Years

HORT 725 - Postharvest Technology and Physiology of Horticultural Crops

Credits: 3

A study of the principles and practices involved in the

harvesting, handling and storage of horticultural products. The relationship of plant structure and physiology will be emphasized in discussing effects of postharvest handling and storage to maximize quality and shelf life of products.

Note
Three hours lecture a week.

Repeat for Credit
N

Typically Offered
Spring-Odd Years

HORT 751 - Human Issues in Horticultural Therapy

Credits: 3

This course will explore human issues in horticulture generally, and human issues in horticultural therapy specifically. Consideration of selected topics and issues such as people-plant relationship theories, horticultural therapy as a specialized allied health field, health-care gardens and their use, societal impacts on horticultural therapy, and research issues. Provides students with a knowledge and understanding of the literature in horticultural therapy and develops an appreciation of the interrelationships involved in this multidisciplinary area.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: A course in research methods and a course in statistics.

Typically Offered
Fall

HORT 752 - Horticulture in Horticultural Therapy

Credits: 3

Application of horticulture principles and practices in therapeutic settings; considerations for greenhouse systems operations and management in therapeutic settings; landscape maintenance, fruit and vegetable gardening, and production horticulture as part of a therapeutic program; and plant propagation for production and therapy.

Repeat for Credit
N

Typically Offered
Spring

HORT 753 - Clinical Skills in Horticultural Therapy

Credits: 3

Development of horticultural therapy skills and methodology is facilitated through real-life case studies. Includes instruction, practice, and evaluation of clinical skills with population groups typically served through horticultural therapy.

Repeat for Credit
N

Typically Offered
Fall

HORT 755 - Practicum in Horticultural Therapy

Credits: 3

The practicum is a means of demonstrating the interconnections between 'theory' and 'practice'. By conducting a practicum project, students demonstrate the ability to apply concepts and ideas from their study of horticultural therapy to a specific population or setting.

Repeat for Credit
N

Typically Offered
Fall, Spring

HORT 760 - Business Management for Horticultural Enterprises

Credits: 3

Focus is on developing a detailed business plan for the service, design and production businesses in horticulture that incorporates considerations of start-up capitalization, insurance, investments, legal accounting and employee compensation. Strategic decision-making and aspects of a

horticulture firms that are unique to its industries, such as product seasonality and perishability, will be discussed.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: HORT 500-level or above.

Typically Offered
Fall

HORT 775 - Plant Breeding Methods in Horticulture

Credits: 3

Focus is on introductory plant breeding principles with emphasis on traditional methods of developing improved cultivars of crosspollinated, self-pollinated, and asexually-propagated horticultural crops, and the genetic principles on which breeding methods are based. The course provides a general background in all areas of plant breeding as a foundation for mastering more complex breeding principles.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: ASI 500 and STAT 300-level or above.

Typically Offered
Fall-Even Years

HORT 780 - Health-Promoting Phytochemicals: Fruits and Vegetables

Credits: 2

The course deals with various aspects of phytochemicals in plant-based foods including fruits and vegetables and their impact on human health and well-being. It includes potential effects of phytochemicals in promoting human health, preventing various diseases and fostering wellness. It also includes biosynthesis and metabolism of phytochemicals in plants. Emphasis is placed on developing strategies to improve the phytochemical content of food crops through approaches involving crop management, environmental and biotechnology tools. Two hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing and CHM 110 or CHM 210.

Typically Offered
Fall-Odd Years

HORT 790 - Sustainable Agriculture

Credits: 2

Historical perspectives of the sustainable agriculture movement in the United States and world-wide will be examined and critiqued. Components of sustainable agriculture such as agroecosystem theory, permaculture, energy use efficiency, and organic standards will be compared and evaluated. Students will demonstrate their understanding and application of the material by conducting research on a topic within sustainable agriculture and presenting the topic to the rest of the class.

Note
Two hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall-Odd Years

K-State 8
Global Issues and Perspectives

HORT 791 - Urban Agriculture

Credits: 2

Students will become familiar with a wide variety of urban agriculture types and production systems utilized in urban settings. The course will include background readings, case studies, guest speakers, student-facilitated class

discussions, and lectures.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall

Social Sciences

HORT 792 - Urban Food Production Practicum

Credits: 1

Students will complete a 400 hour practicum in an approved urban agriculture setting to gain exposure to a broad range of tasks facing the urban farmer. This includes planning, production and marketing of crops in high tunnels and open field.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: HORT 520 and HORT 560.

Typically Offered
Fall, Spring, Summer

HORT 793 - Farm to Fork Produce Safety

Credits: 2

This course will cover all aspects of food safety for fresh produce grown in urban and rural environments, including pathogen ecology and production aspects as well as pre-harvest and postharvest factors that influence the risk of microbial contamination. More specifically, we will discuss ways to minimize the risk of human pathogens on fresh produce using strategies such as the implementation of Good Agricultural Practices (GAPs) and Good Handling Practices (GHPs). The course will cover postharvest interventions that are currently used (chemical sanitizers) as well as innovative technology applications like physical treatments, irradiation, and biological control techniques. Additionally, students will explore the impact of food borne outbreaks on public health and the fresh produce industry in terms of economics, consumer acceptance, and legal aspects.

Repeat for Credit
N

Requisites
Recommended Foundation Course: A course in microbiology.

Typically Offered
Fall-Even Years

HORT 794 - Urban Food Systems

Credits: 2

This course will cover all components of urban food systems through the lens of food security, food justice, access, policy, and community planning. Students will gain skills in grant-writing, non-profit planning and management, and working with urban policy and planning boards.

Repeat for Credit
N

Typically Offered
Spring

Cross-listed
HORT/UFS 794

HORT 795 - Urban Agriculture Study Tour

Credits: 1

Faculty-led trip for students to explore leading examples of urban agriculture. Each year, a trip will occur within North America, lasting approximately 7 days. The study tours will focus on urban food system development in major cities and will highlight examples of how food is being grown in urban areas and the impacts that it has on the community.

Note
Instructor permission

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

HORT 796 - Professional Development in Urban Food Systems

Credits: 0-1

A team instructed seminar course that provides urban food systems students with a suite of skills complimentary to their research experience but still necessary for professional career success.

Note
Urban Food System students will be expected to enroll in this course 4 semesters.

Repeat for Credit
Y

Typically Offered
Fall, Spring

HORT 800 - Horticultural Physiology

Credits: 3

Discussions of recent advances in horticultural crop plant physiology, including improvements in horticultural crops resulting from applications of molecular biology and biotechnology.

Note
Three hours lecture a week.

Repeat for Credit
N

Typically Offered
Fall

HORT 815 - Plant Nutrition and Nutrient Management

Credits: 3

Focuses on the macro and micronutrient elements and their function in the growth and development of plants. Emphasis will be placed on the roles of single elements, interactions/balances between elements, and nutrient deficiency/toxicity symptoms as they affect the physiology of the whole plant and management of nutrient applications. The relationships between crop nutrition and production and environmental considerations (yield, drought, temperature, pests) will be explored.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: AGRON 205 and BIOL 500.

Typically Offered
Spring-Even Years

HORT 846 - Plant Research Methods

Credits: 3

Review of history and forms of plant science literature. Discussion on selecting experimental procedures, interpreting data, and reporting results.

Note
Two hours recitation and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: One statistics course or consent of instructor.

Typically Offered
Fall

HORT 880 - Topics in Horticulture

Credits: 0-18

Discussion and lectures of important papers and contributions in this field.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HORT 898 - Master's Report

Credits: 1-18

Investigations in pomology, olericulture, floriculture, ornamental horticulture, turfgrass, or horticultural therapy for preparation of master's report.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HORT 899 - Research-MS

Credits: 1-18

Investigations in pomology, olericulture, floriculture, ornamental horticulture, turfgrass, or horticultural therapy for preparation of master's thesis.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HORT 910 - Advances in Plant Cell Culture

Credits: 2

Course will cover current topics in plant cell culture, applications and commercial practices, with emphasis on plant genetic improvement. Research-level skills in this area will be taught.

Note
Two hours lecture a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: HORT 710.

Typically Offered
Spring-Odd Years

HORT 940 - Plant Regulators in Horticulture

Credits: 3

A study of synthetic plant regulators used to initiate, induce, promote, inhibit, or alter characteristics of horticultural plants and crops. Included are kinds and types of exogenous plant regulators used on crops, their activity, plant responses, benefits and problems, and application technology.

Note
One hour lecture and two hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 510 or BIOL 500, and one graduate plant commodity course.

Typically Offered
Fall-Even Years

HORT 951 - Horticulture Graduate Seminar

Credits: 1

Student presentations and discussion of investigational works in the various disciplines of Horticulture and Natural Resources.

Repeat for Credit
Y

Typically Offered
Fall, Spring

HORT 960 - Environmental Plant Stress

Credits: 3

Physiological, biochemical and morphological factors involved in stress development and resistance will be discussed.

Repeat for Credit
N

Requisites
Prerequisite: HORT 800

Typically Offered
Spring

HORT 970 - Topics in Horticultural Therapy

Credits: 0-18

Discussion and lectures on important papers and contributions in horticultural therapy.

Note
Permission of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

HORT 999 - Research in Horticulture, PhD

Credits: 1-18

Investigations in pomology, olericulture, floriculture, ornamental horticulture, and turfgrass. Data collected may form basis for a thesis or dissertation.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

IAID 290 - Design and Material Culture

Credits: 3

This course examines contemporary topics within material culture and design across the three domains of practice and scales: Interior Architecture, Furniture Design, and Industrial Design. It serves as an introduction to the disciplinary topics that are shaping current and future design practice. The course begins with a chronological survey of design movements and their grounding theories which serves to frame a deeper thematic discussion around the three major course topics: environmental sustainability, health, and equity.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

IAID 299 - History of Furniture

Credits: 3

Exploration of furniture history from prehistory to the present. Focus on socio-cultural, architectural, technological, material culture, manufacturing, spiritual, aesthetic, sustainable factors over the human timeline.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

IAID 407 - Design Workshop I

Credits: 4

An introduction to the principles of furniture design, with special emphasis on material properties, fabrication methods, tectonics, and structural considerations of furniture design. The course also serves as an introduction to best-practice techniques for safely using the tools and equipment within the Fabrication Lab. Through a series of initial exercises students will develop a versatile foundation in woodworking and metalworking skills that will be applied to the design and fabrication of small-scale furniture projects.

Repeat for Credit
N

Requisites
Prerequisite: IAID 290

Typically Offered
Fall, Spring, Summer

IAID 430 - Visual Communication I

Credits: 3

Seeks to provide a basic understanding of design visualization and presentation in both traditional and digital applications. A two and three-dimensional sensitivity is developed through a series of projects and lectures utilizing the principles of proportion, scale, hierarchy, balance, movement, line, plane, volume, texture, color and an introduction of vector and raster graphics software.

Repeat for Credit
N

Requisites
Prerequisite: ENVD 202.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

IAID 431 - Visual Communication II

Credits: 3

Provides an advanced understanding of design visualization and presentation. Introduces a variety of 3D modeling and rendering software commonly used in the Industrial and Product Design field. Explores digital form development, materials representation, perceptual education and visual communication.

Repeat for Credit
N

Requisites
Prerequisite: IAID 430

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

IAID 432 - Visual Communication III

Credits: 3

Explores advanced techniques in design visualization and presentation. Advanced techniques in image generation and editing using raster and vector tools. Advanced topics in layout and typesetting. Introduction to time-based media, including audio and video editing and 2D animation. Introduction to web and interaction design.

Repeat for Credit
N

Requisites
Prerequisite: IAID 431

Typically Offered
Fall, Spring, Summer

IAID 456 - Introduction to Industrial Design

Credits: 2

Introduction to the Profession of Product/Industrial Design including history; major movements; key practitioners; socio-cultural, architectural and technological drivers; unique design/make processes and methodologies; materials and manufacturing techniques; and, contemporary issues.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

IAID 602 - Furniture Design II

Credits: 4

This course continues to enhance and increase the understanding of a human-centered approach to the design and prototyping of furniture, while focusing more deeply on function and context. Students will develop and practice intermediate woodworking and metalworking techniques and skills. The topics of the course may also include contextual and functional analysis for furniture design, sustainable practices, intermediate structural considerations,and an introduction to human factors as they relate to the design of furniture and accessories.

Repeat for Credit
N

Requisites
Prerequisite: IAID 407 and no grade lower than a C in any IARC or INDD studio course.

Typically Offered
Fall, Spring, Summer

IAID 605 - Problems in IAID

Credits: 1-18

Study of specific problems related to Interior Architecture, Industrial Design, or Furniture Design.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

IAID 615 - Topics in Furniture Design

Credits: 1-3

Study of specific furniture design topics.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

IAID 680 - Production Furniture for the Contract Market Research

Credits: 1

Introduction and implementation of market research; client end-user research; manufacturing implications; BIFMA and other testing requirements; and, competitive market analysis and implications to develop a complete "design brief" for a line of contract furniture within a major manufacturer's existing line.

Repeat for Credit
N

Typically Offered
Fall

IAID 681 - Production Furniture for the Contract Market Design

Credits: 2

This course builds upon the knowledge gained and the design brief developed in IARC 680, Production Furniture for the Contract Market Research and develops the designers' understanding of intersecting forces affecting the design of a line of furniture, from conception to final production. Students work in teams with a manufacturer in the design and development of a line/family of products-expectations of design, prototyping, royalties and licensing-as well as the manufacturing processes and knowledge of effectively specifying furnishings.

Repeat for Credit
N

Requisites
Prerequisite: IAID 680.

Typically Offered
Spring

IAID 753 - Professional Practice: Professional Responsibility

Credits: 1

Interdisciplinary course addresses the connections between allied design professions and the larger community. It helps students to understand and appreciate their professional legal and ethical responsibilities.

Repeat for Credit
N

Typically Offered
Fall, Spring

IAID 754 - Professional Practice: Office Practices

Credits: 1

Interdisciplinary course addresses practice-based issues concerning professional relationships in the design and delivery process, management of projects, communication practices, and fiscal concerns.

Repeat for Credit
N

Typically Offered
Fall, Spring

IAID 814 - Furniture Design III

Credits: 4

Advanced exploration of contemporary topics in furniture design. Students explore innovative design solutions through an iterative, inclusive, and human-centered design process. There is a special emphasis on the generation of multiple mock-ups and prototypes to explore and test their design solutions.

Repeat for Credit
Y

Requisites
Prerequisite: IAID 602 and no grade lower than a C in any IARC or INDD studio course.

Typically Offered
Fall, Spring, Summer

IAID 824 - Advanced Furniture Design Studio

Credits: 6

Advanced design, construction, and finishing of contemporary furniture. Students explore projects programmed under the previous semester's Advanced Studio Programming. Projects must be relevant in a contemporary socio-cultural, architectural and technological context; employ rigorous design research processes and methodologies; identify user and usability needs/ desires; accommodate market opportunities and constraints; explore multiple conceptual solutions in a variety of hand and digital media; and demonstrate experimentation in the design of spatial components utilizing advanced construction techniques and materials through the development and documentation of models and prototypes. A book, oral and visual presentation and display materials for exhibition of the student's work will be required at the completion of the course.

Repeat for Credit
Y

Requisites
Prerequisite: IARC 810 or INDD 810, IARC 815 or INDD 815.

Typically Offered
Fall, Spring, Summer

IAID 891 - Contemporary Design Seminar

Credits: 3

Seminar on current interior architecture, product design and furniture design that illustrate principles and practical concerns that motivate design with readings, class discussion, student presentations, research papers or projects.

Note
Open to non-majors accepted in the College of Architecture, Planning and Design.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall, Spring, Summer

IAPD 821 - Advanced IAPD Design Studio

Credits: 4

Advanced study of interior space planning, product design, and interior design.

Repeat for Credit
Y

Typically Offered
Spring, Summer

IARC 248 - Fundamentals of Architectural Technology

Credits: 3

Instruction in the fundamentals of architectural technology with emphasis on the concepts and principles necessary for developing an integrated approach to building design.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: Admission to a professional program in the college.

Typically Offered
Fall

Cross-listed
ARCH 248: Fundamentals of Architectural Technology

IARC 300 - Design and Material Culture

Credits: 3

People's personal characteristics or social position can be expressed by the products they purchase, the possessions they own, and the physical environments they create. Design has become a major factor influencing one's final decision for purchasing these products. This course examines material culture which is created from the influences of human behavior, design, history, marketing, economics, politics, geography, the arts, and sociology.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Historical Perspectives
Human Diversity within the U.S.

IARC 307 - IARC Design Studio I

Credits: 5

Introduction to the Interior Architecture design process. Generation of design concept and design alternatives for small-scale projects. Introduction to basic design theory, beginning design research, human scale, behavior, ergonomics and anthropometrics as they affect design decisions. Introduction of structure and environmental analysis as informants and determinants of design. Focus on multiple graphic representations and compositions, including diagramming, sketching, freehand drawing, and enhancing through digital means.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the professional program in interior architecture.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

IARC 310 - IARC Digital Applications

Credits: 2

This course addresses current digital media as it is used by the profession to draft and visualize design projects. Survey a wide variety of contemporary design and visualization software. The intention is not mastery of any single software but instead to form an understanding of the interface and use of the tools and when they are appropriate. Enable the thoughtful discussion and understanding of design representation and process in both drafting and visualization. Enable and empower the student to comfortably engage design software as they continue to evolve.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the professional program in interior architecture.

Typically Offered
Fall, Summer

K-State 8
Aesthetic Interpretation

IARC 320 - IARC Design Studio II

Credits: 5

This studio introduces the principles of design, design terminology, and the values of a human centered design philosophy for the interior environment. Significant emphasis will be on the theoretical underpinnings of project ideation and development; and formal design processes and decision-making. Oral, graphic and visual communication skills and model making techniques will also be stressed to assist students in representing their design ideas.

Repeat for Credit
N

Requisites
Prerequisite: IARC 307; no grade lower than a C in any interior architecture and product design studio course.

Typically Offered
Fall, Spring, Summer

K-State 8

Aesthetic Interpretation
Historical Perspectives

IARC 391 - Topics in Contemporary Design Seminar

Credits: 3

Seminar on current interior architecture, industrial design, and furniture design that illustrate principles and practical concerns that motivate design with readings, class discussion, student presentations, research papers or projects.

Repeat for Credit
N

Requisites
Prerequisite: Open to non-majors accepted in the College of Architecture, Planning and Design; third-year standing.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

IARC 406 - Problems in IARC

Credits: 1-18

Study of specific interior architectural problems under direct supervision of a member of the department.

Repeat for Credit
Y

Requisites
Prerequisite: ENVD 201.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

IARC 409 - Materials and Finishes

Credits: 3

Introduction to materials, textiles, and finishes specific to interior applications. Criteria for evaluation, selection, and application of interior materials and finishes with the building fabric and their impact on building design. Preparation of written and graphic communications to illustrate and direct the construction process.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the professional program in interior architecture.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Ethical Reasoning and Responsibility

IARC 412 - Design Workshop I Studio

Credits: 1

Exploration of design alternatives; process, presentation and construction graphics communicating design.

Repeat for Credit
N

Requisites
Corequisite: IARC 407.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

IARC 435 - IARC Design Studio III

Credits: 5

This studio builds on the knowledge and skills developed in IARC 320. It provides an in-depth understanding of the design methodologies and principles of interior architecture enhanced with an introduction to evidence-based design through the principles of environment-behavior, review and analysis of historic precedents, user needs, and the impact of shapes and forms, materials, lighting and color.

Repeat for Credit

N

Requisites
Prerequisite: IARC 320, no grade lower than a C in any interior architecture studio course.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Social Sciences

IARC 440 - IARC Design Studio IV

Credits: 5

This course will build upon and extend the knowledge and skill base gained by students in previous studios, and will include the introduction of programming methodology and its relationship to the design and organization of interior space. Emphasis will be placed on an understanding of how human behavior affects the designed environment, including the elements and objects that shape it such as the appropriate selection of furniture, finishes, fixtures, and equipment within the context of their relationships to form, function, task and users' needs.

Repeat for Credit
N

Requisites
Prerequisite: IARC 435, no grade lower than a C in any interior architecture and industrial design studio course.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Social Sciences

IARC 603 - Design Workshop II Studio

Credits: 1

Studio component of Design Workshop II. Exploration of design alternatives; process, presentation and construction graphics, students increase their proficiency at communicating ideas through working and presentation drawings for projects to be created in IARC 802: Design Workshop II.

Repeat for Credit
N

Requisites
Prerequisite: IARC 407, IARC 412 and no grade lower than a C in any IAPD or INDD studio course.
Corequisite: IARC 602.

Typically Offered
Fall, Spring, Summer

IARC 605 - Problems in IARC

Credits: 1-18

Study of specific problems related to Interior Architecture.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

IARC 606 - IARC Design Studio VI

Credits: 5

This semester of study provides an option for an interdisciplinary collaborative studio course oriented towards replicating the learning experience and interactive activities that takes place in the modern multidisciplinary professional office or a validated equivalent studio completed in an approved study program.

Repeat for Credit
N

Requisites
Prerequisite: ARCH 433 and IARC 801, and no grade lower than a C in any interior architecture design studio course.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Natural and Physical Sciences

IARC 625 - Lighting

Credits: 3

An examination of design and technical issues related to luminous environments in building interiors. Topics include color and light, vision, light sources, luminaire selection and design, and the evaluation of lighting solutions.

Repeat for Credit
N

Requisites
Prerequisite: IARC 435

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

IARC 628 - Construction Documentation

Credits: 3

A technical capstone course that explores the development of construction documentation for interior architecture projects includes demolition, partition, and reflected ceiling plans, power and communications plans, finish and furnishings plans, interior elevations, sections, details, and schedules. Understanding of the mechanical, electrical, plumbing and structural systems, as well as building and life-safety codes, and the Americans with Disabilities Act will be demonstrated through completion of the set of drawings.

Repeat for Credit
N

Requisites
Prerequisite: IARC 435.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

IARC 644 - Internship

Credits: 9

Fifteen week internship in a professional environment with a focus on interior architecture, product/industrial design and/or furniture design: office and field experience.

Repeat for Credit
N

Requisites
Prerequisite: IARC 440; Corequisite: IARC 645.

Typically Offered
Fall, Spring

IARC 645 - Internship Report

Credits: 5

Development of the student's analysis; observation, and communication skills in relationship to the professional office and field environment. Detailed documentation, online and on-campus, of the experiences encountered during internship, allowing classmates to learn from their peer's varied experiences as well as provide a detailed documentation of the student's work during internship.

Repeat for Credit
N

Requisites
Corequisite: IARC 644.

Typically Offered
Fall, Spring

IARC 664 - Summer Internship

Credits: 6

Ten week internship in a professional environment with a focus on interior architecture, industrial/product design and/or furniture design: office and field experience.

Repeat for Credit
N

Requisites
Prerequisite: IARC 440 and IARC 628 and no grade lower than a C in any IARC or INDD studio course.

Corequisite: IARC 665.

Typically Offered
Summer

IARC 665 - Summer Internship Report

Credits: 1

Development of the student's analysis, observation, and communication skills in relationship to the professional office and field environment. Detailed documentation, online and on-campus, of the experiences encountered during internship, allowing classmates to learn from their peer's varied experiences as well as provide a detailed documentation of the student's work during internship.

Repeat for Credit
N

Requisites
Corequisite: IARC 664.

Typically Offered
Summer

K-State 8
Empirical and Quantitative Reasoning

IARC 710 - Advanced 3-D Computer Modeling

Credits: 3

Lighting, materials, animation, advanced modeling techniques, sound, and storyboarding are methodologies required to successfully build a digital presentation for projection in a two dimensional, or 3-dimensional environment using the vision domes. Projects that utilize these topics will include an introduction to 3D modeling, animation, sound, titling, lighting, and a material editor.

Repeat for Credit
N

Requisites
Prerequisite: IARC 410.

Typically Offered
Fall

IARC 755 - Professional Practice: Discipline-Specific Topics

Credits: 1

Covers discipline-specific concerns, focusing on issues specific to architecture, interior architecture and product design, landscape architecture or regional and community planning.

Repeat for Credit
N

Typically Offered
Fall, Spring

IARC 760 - IARC Seminar

Credits: 0-18

Readings and discussion of contemporary thought and movements within the field of interior architecture design with special emphasis on the societal factors that produce and effect change.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall, Spring

IARC 801 - IARC Design Studio V

Credits: 5

This semester of study provides an option for an interdisciplinary collaborative studio course oriented towards replicating the learning experience and interactive activities that take place in the modern multi-disciplinary professional office.

Repeat for Credit
Y

Requisites
Prerequisite: IARC 440 and no grade lower than a C in any IARC studio course.

Typically Offered
Fall, Spring, Summer

IARC 802 - Design Workshop II

Credits: 3

Design Workshop II is intended to further develop the student's understanding of the three dimensional design process through research, design, prototype construction, evaluation and redesign. Enhance and increase the student's

understanding of the structural characteristics of materials.

Repeat for Credit
Y

Requisites
Prerequisite: IARC 407, IARC 412 and no grade lower than a C in any IARC or INDD studio course.
Corequisite: IARC 803.

Typically Offered
Fall, Spring, Summer

IARC 803 - Design Workshop II Studio

Credits: 1

Studio component of Design Workshop II. Exploration of design alternatives, process, presentation and construction graphics, students increase their proficiency at communicating ideas through working and presentation drawings for projects to be created in IARC 802: Design Workshop II.

Repeat for Credit
Y

Requisites
Prerequisite: IARC 407, IARC 412 and no grade lower than a C in any IARC or INDD studio course.
Corequisite: IARC 802.

Typically Offered
Fall, Spring, Summer

IARC 810 - IARC Capstone Studio

Credits: 5-6

Students are to pursue design projects that encompass their previous educational experience validating their knowledge of the IARC program studies. The project will be based on extensive research and review. The project presentation will suggest unique and applicable solutions with clearly identified methodology of implementation.

Repeat for Credit
Y

Requisites
Prerequisite: IARC 801 and IARC 811.

Typically Offered
Fall

IARC 811 - Design Research

Credits: 2-3

Identify evaluation criteria appropriate for design research and problem solving, analysis of literature, construction of problem statements, development and documentation of design problem proposals and reports.

Repeat for Credit
Y

Requisites
Prerequisite: IARC 440.

Typically Offered
Fall, Spring, Summer

IARC 813 - Furniture Design Workshop Studio

Credits: 1

Studio component of IARC 814 Furniture Design Workshop. Exploration of contemporary design alternatives, students explore innovation and demonstrate knowledge through design processes and including process, presentation and construction graphics for projects to be created in IARC 814: Furniture Design Workshop.

Repeat for Credit
Y

Requisites
Prerequisite: IARC 603. Corequisite: IARC 814.

Typically Offered
Fall, Spring, Summer

IARC 815 - Advanced Studio Programming

Credits: 2-3

Research of programming methodologies culminating in a programmatic document used as the basis for the design project in IARC 822, IARC 823 or IARC 824.

Repeat for Credit
Y

Requisites
Prerequisite: IARC 801.

Typically Offered
Fall, Summer

IARC 822 - Advanced Product Design Studio

Credits: 6

Students explore projects programmed under the previous semester IARC 815 Advanced Studio Programming. Projects must be relevant in a contemporary socio-cultural, architectural and technological context; employ rigorous design research processes and methodologies; identify user and usability needs/desires; accommodate market opportunities and constraints; explore multiple conceptual solutions in a variety of hand and digital media; build and document models and prototypes; and estimate material and manufacturing costs. A book, oral and visual presentation, and display materials for exhibition of the student's work will be required at the completion of the course.

Repeat for Credit
Y

Requisites
Prerequisite: IARC 810 and IARC 815.

Typically Offered
Fall, Spring, Summer

IARC 823 - Advanced Interior Architecture Design Studio

Credits: 6

Students explore projects programmed under the previous semester IAPD 815 Advanced Studio Programming. Projects focus on interior architecture represent a suitable design relevancy and proper academic rigor on the level of graduate design study. Design solutions must be relevant in a contemporary socio-cultural and architectural context; employ rigorous design research processes and methodologies; respond to user needs and desires; explore multiple innovative conceptual solutions in a variety of hand and digital media; and illustrate advanced knowledge and application of materiality, understanding of structural and building environmental systems' implication on interior architecture, and the selection or design of furnishings that enhance the goals for the spaces.

Repeat for Credit
Y

Requisites
Prerequisite: IARC 810 and IARC 815.

Typically Offered
Fall, Spring, Summer

IARC 830 - Problems in IARC

Credits: 0-18

Study of specific interior architectural problems under direct supervision of the departmental staff.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall, Spring

IDFS 350 - Our Sustainable World

Credits: 3

Sustainability has become one of the most pressing scientific and social challenges of the modern era. This course introduces students to the theory, principles, and practices of sustainability - by focusing on environmental, social, and economic sustainability perspectives, behaviors, policies, and customs on a global level. It includes discussions on creating ecological health, economic welfare, and social justice.

Repeat for Credit
N

Typically Offered
Spring, Summer

Cross-listed
ID 350

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

IDFS 650 - Resilient Systems for a Sustainable World

Credits: 3

Study of resilience in environmental, economic, and social systems to foster human wellbeing from a human ecology perspective. Examines theories and approaches that create resilient systems resulting in ecological health, economic welfare, and social justice.

Repeat for Credit
N

Requisites
Prerequisite: IDFS 350 OR GEOG 360 OR FASH 700

Typically Offered
Fall, Spring

IDFS 670 - Problem Solving for a Sustainable World

Credits: 3

Study of problem solving approaches with application to personal action, social systems, and the ecology of the planet from a human ecology perspective. The course will emphasize developing solutions to problems through the application of problem solving methods and thinking skills. Systems thinking, design thinking, critical thinking, and creative thinking will be employed as means to solve challenges to human wellbeing.

Repeat for Credit
N

Requisites
Prerequisite: IDFS 350 OR GEOG 360 OR FASH 700

Typically Offered
Fall, Spring

IDFS 750 - Leading Change for a Sustainable World

Credits: 3

Study of skills, techniques, and methods of leading groups to overcome challenges to human wellbeing associated with the climate crisis from a human ecology perspective. Students in the course will learn and apply effective leadership approaches and processes and develop individual skills of effective change leadership.

Repeat for Credit
N

Requisites
Prerequisite: IDFS 650 and IDFS 670

Typically Offered
Fall, Spring

IDSN 115 - First Year ID Student Seminar

Credits: 1

First Year Seminar is structured to engage and support students during their first semester of study. The course is focused on learning strategies and resources that build toward successful outcomes for the remainder of their college studies.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the Interior Design Program.

Typically Offered
Fall

IDSN 210 - Design and Behavior in the Interior Environment

Credits: 3

Developing awareness of aesthetic and behavioral relationships fundamental to interior design.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Social Sciences

IDSN 225 - Interior Design Studio 1

Credits: 4

Introduction to two-dimensional and three-dimensional design fundamentals including design elements and principles, the design process, interior design theory and its application, and fundamental design communication methods including drawing and model building.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the interior design program.

Typically Offered
Fall

IDSN 245 - Interior Design Studio 2

Credits: 4

Exploration of two-dimensional and three-dimensional design fundamentals. Introduction to color theory in spatial design. Introduction to light, shade, and shadow. Introduction to rendering, constructed perspective, and paraline drawing.

Repeat for Credit
N

Requisites
Prerequisite: IDSN 225 with a C or better.

Typically Offered
Spring

IDSN 300 - Global Experiences in Interior Design

Credits: 0-6

An experiential learning course that prepares students for and immerses them in an international study tour designed to enhance their global and cultural awareness. Lectures and tours target important interior/architectural design, furniture, and objects of material culture.

Note
Instructor's permission.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

IDSN 310 - Construction Methods and Materials for Interior Design

Credits: 4

Introduction to theories, concepts, selection, and application of construction processes, materials, and finishes. Introduction to codes, regulations, representation of construction methods, and sustainability.

Repeat for Credit
N

Requisites
Prerequisite: IDSN 245 and IDSN 350 with C or better.

Typically Offered
Fall

IDSN 315 - Digital Visualization I

Credits: 2

Introduction to and application of digital technologies used by interior design professionals for 2D drafting and presentation layout.

Repeat for Credit
N

Requisites
Corequisite: IDSN 325

Typically Offered
Fall

IDSN 320 - History of Interior Design I

Credits: 3

A historic survey of all aspects of the built environment, including architecture, furniture, textiles, and the minor arts from antiquity to 1850.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Historical Perspectives

IDSN 325 - Interior Design Studio 3

Credits: 4

Advanced spatial design fundamentals. Application of human factors and theories of human behavior in the built environment. Selection of materials and colors. Emphasis on design conceptualization and creativity. Advanced visual communication methods including perspective drawing and rendering and other rapid visualization skills.

Repeat for Credit
N

Requisites
Prerequisite: IDSN 245 with a C or better
Corequisite: IDSN 315

Typically Offered
Fall

IDSN 330 - Textiles for Interior Design

Credits: 3

Introduction to textiles for interior environments, with a focus on the fabrication and application of materials designed specifically for use as upholstery, window coverings, soft floor coverings, wall coverings, panel systems, and other miscellaneous interior applications. Also includes the regulatory, environmental, and human health impacts of textile production, application, and maintenance.

Repeat for Credit
N

Typically Offered
Spring

IDSN 345 - Interior Design Studio 4

Credits: 4

Application of interior design theory and evidence-based design in small scale projects. Introduction of project programming for interior design. Application of codes and regulations. Continued emphasis on design communication skills.

Repeat for Credit
N

Requisites
Prerequisite: IDSN 310 and IDSN 325 with a C or better.

Typically Offered
Spring

IDSN 360 - History of Interior Design II

Credits: 3

A survey of design evolution of architecture, interiors, furniture, textiles, and the minor arts from 1850 to the present.

Repeat for Credit
N

Requisites
Prerequisite: IDSN 320.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Historical Perspectives

IDSN 399 - Interior Design Practicum

Credits: 0-2

Off-campus professional experience in an appropriate design-related setting.

Repeat for Credit
Y

Requisites
Prerequisite: IDSN 345 and IDSN 415 with a C or better.

Typically Offered
Summer

IDSN 410 - Housing and Its Environment

Credits: 3

Socioeconomic, political-legal, and consumer overview of housing. Includes individual, family, and public decisions related to residential alternatives, their acquisition, and housing and environmental standards.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall, Spring

IDSN 415 - Digital Visualization II

Credits: 2

Introduction to and application of digital technologies used by interior design professionals for 3D representation and rendering of design solutions.

Repeat for Credit
N

Requisites
Prerequisite: IDSN 310 and IDSN 325 with a C or better. Co-requisite: IDSN 345.

Typically Offered
Spring

IDSN 425 - Interior Design Studio 5

Credits: 4

Application of theory and research in medium scale projects. Focus on construction systems, materials, and methods. Continued emphasis on communication skills, programming, spatial design, and application of codes and regulations.

Repeat for Credit
N

Requisites
Prerequisite: IDSN 345 and IDSN 415 with a C or better. Co-requisite: IDSN 435.

Typically Offered
Fall

IDSN 435 - Systems and Technology for Interior Design I

Credits: 3

Introduction to the principles of lighting, daylighting, acoustics, water supply, sanitation, thermal comfort, and indoor air quality to enhance human wellbeing.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 101 and PHYS 103 or PHYS 113 or PHYS 115 with a C or better

Typically Offered
Spring

IDSN 440 - Systems and Technology for Interior Design II

Credits: 3

Integration and application of all building systems with a focus on new technology and support of human wellbeing.

Repeat for Credit
N

Requisites
Prerequisite: IDSN 425 and IDSN 435 with a C or better.

Typically Offered
Fall

IDSN 445 - Interior Design Studio 6

Credits: 4

Development of working drawings and specifications for projects integrating building systems and interior construction.

Repeat for Credit
N

Requisites
Prerequisite: IDSN 425 and IDSN 435 with a C or better. Co-requisite: IDSN 440.

Typically Offered
Spring

IDSN 499 - Problems in Interior Design

Credits: 0-18

Independent study.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

IDSN 530 - Interior Design Practices and Procedures

Credits: 3

Ethics, business procedures, and professional development; contract services and administration; and preparation for job market entry as applied to the practice of interior design.

Repeat for Credit
N

Requisites
Prerequisite: IDSN 425 with a C or better and admission to the interior design program.

Typically Offered
Spring

IDSN 545 - Interior Design Studio 7

Credits: 4

Application of design theory to create solutions for complex, large-scale interior spaces. Projects require implementation of all phases of the design process. Students will gain greater understanding of the interior designer's responsibilities within the context of the design professions.

Repeat for Credit
N

Requisites
Prerequisite: IDSN 445 and IDSN 530 with a C or better.

Typically Offered
Fall

IDSN 599 - Interior Design Internship

Credits: 3-4

Supervised off-campus professional experience in appropriate design-related firms, government agencies, or the housing industry.

Repeat for Credit
N

Requisites
Prerequisite: IDSN 445 and IDSN 530 with a C or better and admission to the interior design program and a 2.2 cumulative GPA and 2.5 GPA in professional areas.

Typically Offered
Fall, Spring, Summer

IDSN 600 - Interior Design Study Tour

Credits: 1-3

Supervised off-campus tour to acquaint the student with rich artistic and cultural locations around the world and expand student's global perspectives of the design profession. Lectures and tours target important interior/architectural design and furniture collections.

Repeat for Credit
Y

Requisites
Prerequisite: Instructor's permission.

Typically Offered
Fall, Spring, Summer

IDSN 630 - Topics in Advanced Interior Design Theory

Credits: 3

An examination of contemporary social and cultural influences on design theory and applications within the interior design profession.

Repeat for Credit
Y

Requisites
Prerequisite: IDSN 345 with a C or better.

Typically Offered
Fall, Spring

IDSN 645 - Interior Design Studio 8

Credits: 4

Application of design theory to create solutions for complex, large-scale interior spaces. Projects will conform to professional standards regarding design process, protection of health, safety, and welfare, and construction methods.

Repeat for Credit
N

Requisites
Prerequisite: IDSN 445 and IDSN 530 with a C or better.

Typically Offered
Spring

IDSN 650 - Advanced Design and Behavior in the Interior Environment

Credits: 3

The design of interior environments explored in an ecological, behavioral, and cultural context.

Repeat for Credit
N

Requisites
Prerequisite: IDSN 345 or consent of instructor.

Typically Offered
Fall, Spring

IDSN 651 - Design for Supportive Environments

Credits: 4

Analysis of the age and ability related needs and challenges faced by children, older adults, and persons with disabilities. Team approaches to providing living and work environments that accommodate both universal and special human needs.

Repeat for Credit
N

Requisites
Prerequisite: IDSN 345 with a C or better.

Typically Offered
Fall

K-State 8
Human Diversity within the U.S.

IDSN 660 - Advanced Kitchen and Bath Design

Credits: 3

Functional and research basis for planning and arranging based on activity analysis, equipment, materials, lighting, and ventilation.

Repeat for Credit
N

Requisites
Prerequisite: IDSN 345 and IDSN 435 with a C or better and admission to the interior design program.

Typically Offered
Spring

IDSN 760 - Historic Preservation and Restoration of Interiors

Credits: 3

Principles, guidelines, and qualities of preservation and restoration of interiors. Research and application.

Repeat for Credit
N

Requisites
Prerequisite: IDSN 320 and IDSN 360; or ENVD 250 and ENVD 251.

Typically Offered
Fall, Spring

IHS 110 - Introduction to Integrative Human Sciences

Credits: 1

This course will provide the foundation for students in the IHS major. The course will introduce students to the framework that guides the discipline and the curriculum.

Repeat for Credit
N

Typically Offered
Fall

IHS 200 - Topics in Integrative Human Sciences I

Credits: 0-3

Exploration of topics in human science/family and consumer sciences.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

IHS 310 - Foundations of Integrative Human Sciences

Credits: 3

Examination of the Family & Consumer Sciences Body of Knowledge Framework and application to professional practice and ethical decision-making.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing or consent of instructor.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

IHS 399 - Integrative Human Sciences Applied Learning Orientation

Credits: 1

Provides support and guidance for students as they select an applied learning experience specific to their personal and professional goals.

Repeat for Credit
N

Requisites
Prerequisite: IHS 110 with a grade of C or better; IHS Majors only.

Typically Offered
Fall, Spring

IHS 400 - IHS Applied Learning Experience

Credits: 1-3

Learners will participate in applied learning experiences specific to their personal and professional goals. These experiences will be designed to meet the needs of the individual learner and provide an opportunity for application of skills and knowledge; reflection on professional practice and preparation for roles as future leaders and change agents.

Repeat for Credit
Y

Requisites
Prerequisites: IHS 110; IHS 399 with a grade of B or better; IHS majors only.

Typically Offered
Fall, Spring, Summer

IHS 410 - Integrative Human Sciences Seminar

Credits: 2

Application of career and professionals skills relevant to students majoring in Integrated Human Sciences. Specific focus on the application of the FCS Body of Knowledge to professional practice.

Repeat for Credit
N

Requisites
Prerequisite: IHS 310

Typically Offered
Fall-Odd Years

IHS 420 - Family and Consumer Science Methods for Secondary and Middle Schools

Credits: 3

Principles of teaching applied to family and consumer sciences instruction in the secondary and middle schools including: motivation, organization of subject matter, lesson/unit planning, assessment and reporting, organization and management of the classroom, and methodology and materials of the secondary and middle schools.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 315, EDSP 323, and EDCI 320. Corequisite: EDSEC 455, EDSEC 477, EDSEC 525 and IHS 425.

Typically Offered
Fall

IHS 425 - Family and Consumer Science Education Practicum

Credits: 2

This field-based experience provides the opportunity for students to plan, teach, and evaluate family and consumer science education lessons within a placement at the middle or secondary level. This practicum also allows students to incorporate instructional strategies and application of materials from the methods course.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 315, EDSP 323, and EDCI 320. Corequisite: EDSEC 455, EDSEC 477, EDSEC 525, and IHS 420.

Typically Offered
Fall

IHS 500 - Topics in Integrative Human Sciences II

Credits: 0-3

Advanced exploration of topics in human science/family and consumer sciences.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

IMSE 015 - Engineering Assembly

Credits: 0

Assemblies are held once a month for practicing industrial engineers to make presentations to the students. Students are given an opportunity to interact with the visitors. The purpose is to provide an opportunity to learn about various companies and their products and operations.

Note
Required every semester.

Repeat for Credit
Y

Typically Offered
Fall, Spring

IMSE 050 - Industrial Plant Studies

Credits: 0

Trip to industrial centers for study of facilities of special interest to industrial engineering students.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing in industrial engineering.

Typically Offered
Spring

IMSE 201 - Introduction of Industrial Engineering

Credits: 3

Introduction to the core areas of industrial engineering including ergonomics, operations, research, quality control, management, engineering economics, resource management, production systems and inventory control. Both engineering ethics and careers in industrial

engineering will be discussed.

Note
Two hours lecture and two hours lab week.

Repeat for Credit
N

Requisites
Corequisite: MATH 220.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

IMSE 250 - Introduction to Manufacturing Processes and Systems

Credits: 2

This course provides an introduction to manufacturing processes and systems. The history and impact of manufacturing on society will be explored. A review of manufacturing processes and the products to which they are best suited will be emphasized. The impact of product design on manufacturability will be introduced. The role of engineers in designing good manufacturing processes and systems will be discussed.

Note
Two hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent: MATH 205 or MATH 220.

Typically Offered
Fall, Spring

IMSE 251 - Manufacturing Processes Laboratory

Credits: 1

General introduction to foundry, welding, and machining. Includes safe manufacturing practices, metrology, and hands-on experience in foundry, welding, and machining operations.

Note
Three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent: IMSE 250.

Typically Offered
Fall, Spring

IMSE 252 - Welding Laboratory

Credits: 1

Introduction to welding. Includes safe welding practices and lab experiments in gas, spot, and arc welding.

Note
Three hours lab a week.

Repeat for Credit
N

Typically Offered
Fall

IMSE 255 - Computer Numerical Control Laboratory

Credits: 1

Introduction to computer numerical control. Part programming for CNC lathes and mills will be accomplished.

Note
Three hours lab a week.

Repeat for Credit
N

Typically Offered
Spring

IMSE 441 - Introduction to Analytics

Credits: 3

This course covers an introduction to analytics, which includes computer programming, statistics and mathematical decision making. Topics include: arrays,

loops, data structures, data visualization, hypothesis testing, confidence intervals, multidimensional linear regression, distribution fitting, and identifying objectives and constraints to recommend data driven solutions.

Repeat for Credit
N

Requisites
Prerequisite: At least 3 hours of STAT courses at the 300 level or above and at least 3 hours of CIS courses at the 200 level or above.

Typically Offered
Fall, Spring

IMSE 497 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research projects.

Repeat for Credit
Y

Typically Offered
Fall, Spring

IMSE 499 - Honors Research in Industrial Engineering

Credits: 1-18

Individual research problem selected with approval of faculty advisor. Open to students in the College of Engineering honors program. A report is presented orally and in writing during the last semester.

Repeat for Credit
Y

Typically Offered
Fall, Spring

IMSE 501 - Industrial Management

Credits: 3

Basic functions in an industrial organization and their interrelationships; management considerations involving product, process, plant, and personnel.

Note
Three hours recitation a week.

Repeat for Credit
N

Typically Offered
On sufficient demand

IMSE 530 - Engineering Economic Analysis

Credits: 2

The analysis of the economic aspects of engineering/industrial projects. Focus on decision making among competing alternatives, including replacement decisions. It includes: cost estimating, time-value of money and effects of depreciation and taxation. Methods of comparing alternatives are developed, including: equivalent worth, rate of return, break even analysis, and benefit-cost ratio.

Note
This course period lasts the first ten weeks of a semester.

Repeat for Credit
N

Requisites
Prerequisite: MATH 220.

Typically Offered
Fall, Spring

IMSE 532 - Industrial Project Evaluation

Credits: 1

The analysis and selection of engineering/industrial projects. This course is a continuation of IMSE 530. Topics in addition to IMSE 530 includes: risk/uncertainty, impact of inflation, capital rationing, multiple criteria decision making, and determining the MARR.

Note
This course must be taken concurrently with IMSE 530 in the same semester. This course period lasts the last five weeks of a semester.

Repeat for Credit
N

Typically Offered
Fall, Spring

IMSE 541 - Statistical Quality Control

Credits: 3

Normal, binomial, and frequency distributions. Seven process improvement tools. Control charts on means and variances for variables and attributes. Design of experiments for process and product design. Acceptance sampling plans.

Note
Two hours recitation and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 441 or STAT 511 or STAT 705

Typically Offered
Fall

IMSE 555 - Industrial Facilities Layout and Design

Credits: 3

Design of industrial facilities with emphasis on manufacturing engineering and material handling.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 251 and corequisite or prerequisite: IMSE 530.

Typically Offered
Spring

IMSE 560 - Introduction to Operations Research I

Credits: 3

A study of the methods of operations research including model formulation and optimization. Topics include: linear programming, sensitivity analysis, network flows, and graph optimization.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 222 and MATH 551.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

IMSE 562 - Materials and the Impact of Manufacturing Processes

Credits: 3

The categorization and analysis of materials used in manufacturing is introduced. Emphasis is placed on the electronic and mechanical properties of materials along with the impact that manufacturing processes have on these properties. Through laboratory work, the students will learn how to design and conduct manufacturing experiments to measure material properties and explore the interplay between processes and properties. 3 credit hours, 2 hours lecture, 1 hour lab per week [2 lab sections]. Offered spring semesters every year.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 214, CHE 354.

Typically Offered
Spring

IMSE 563 - Manufacturing Processes Engineering

Credits: 3

The effects of operating variables on manufacturing processes such as machining, metal forming, casting, welding, plastics, etc. Emphases are on manufacturing process theory, process variables measurement, and the

technical inferences of collected data. Strength of materials, manufacturing process theory, instrumentation, computer data acquisition, and data analysis concepts are included. Laboratory testing of manufacturing processes and the engineering design of experiments for process variable measurements are used to develop efficient manufacturing processes.

Note
Two hours recitation and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 251, CHE 355, and CE 530 or CE 333 and ME 512.

Typically Offered
Fall-Odd Years

IMSE 564 - Product and Process Engineering

Credits: 3

A study of the interrelationships between product design and production process selection. Emphasis is on the development of economic production systems for discrete products in a competitive manufacturing environment. Concepts of design for manufacture and assembly, tool engineering, and manufacturing systems design are included.

Note
Two hours lecture and three hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 250, IMSE 251, IMSE 530.

Typically Offered
Spring-Even Years

IMSE 580 - Manufacturing Systems Design and Analysis

Credits: 4

Comprehensive design and analysis of a manufacturing system: integration of the undergraduate industrial engineering and manufacturing engineering courses.

Note
Two hours recitation and four hours lab a week.

Repeat for Credit
N

Requisites
(Prerequisite or concurrent; IMSE 541, IMSE 555, IMSE 633, and IMSE 660) or (Prerequisite; ME 533)

Typically Offered
Fall

IMSE 591 - Senior Design Project I

Credits: 2

Students organize themselves in teams, not exceeding five students in each team. Each team is responsible to establish a client. The teams select a general subject agreeable to the client, formulate a specific design project, and gather data and resources needed to support the project.

Note
Two hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent: 24 credit hours of IMSE 500 level and above courses.

Typically Offered
Fall, Spring

IMSE 592 - Senior Design Project II

Credits: 2

Continuation of IMSE 591 in which student teams complete engineering design projects formulated and approved in IMSE 591.

Note
Two hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 591.

Typically Offered
Fall, Spring

IMSE 602 - Topics in Industrial Engineering

Credits: 1-18

Lectures on recent topics in industrial engineering.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

IMSE 604 - Independent Study of Industrial Engineering

Credits: 1-18

This course involves independent study at the introductory graduate level.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

IMSE 605 - Advanced Industrial Management

Credits: 3

Contemporary management philosophies and their impact on engineers and engineering managers. Topics include: planning, organizing, leading, and controlling.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 501 or MANGT 220.

Typically Offered
Fall

IMSE 610 - Occupational Safety Engineering

Credits: 3

An overview of factors affecting safety in organizations, emphasizing analysis techniques and design strategies. Topics include occupational safety, accidents, fire protection, industrial hygiene, hazardous waste, toxicology, radiation safety, product liability and federal standards. A project involving a hazard analysis and the design of a solution for a field location is required.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 251.

Typically Offered
Spring-Even Years

IMSE 623 - Industrial Ergonomics

Credits: 3

Process analysis and charting; principles of motion economy and ergonomics; work stations and environments; micromotion analysis and an introduction to standard data systems.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: STAT 510.

Typically Offered
Fall

K-State 8
Human Diversity within the U.S.

IMSE 625 - Work Environments

Credits: 3

Basic structure and performance of the human, viewed as a component in information processing and control systems. Effect of visual, auditory, toxic, and thermal environments.

Note
Two hours recitation and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 251.

Typically Offered
Other

IMSE 633 - Production Planning and Inventory Control

Credits: 3

Principles, techniques, and applications of production planning and inventory control. The course covers strategic planning tools such as forecasting and aggregate planning as well as tactical tools such as inventory management and scheduling.

Note
Three hours recitation.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 250. Prerequisite or concurrent: IMSE 560.

Typically Offered
Spring

IMSE 641 - Quality Engineering

Credits: 3

An introduction to the modern practice of quality engineering concepts, systems, strategies, and tools to both manufacturing and service industries. Topics include advanced techniques related to statistical process control, international quality standards, quality data management, and automatic inspection.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 441 or STAT 511 or STAT 705

Typically Offered
Spring

IMSE 643 - Industrial Simulation

Credits: 3

Basic concepts of computer simulation modeling of manufacturing, production, service and other stochastic systems. Use of a commercial simulation software environment to build, analyze, verify and validate models. Use of models as a system design tool through statistical and optimization techniques.

Note
Three hours recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: CIS 200 or CIS 209 or ME 400
Prerequisite or concurrent: IMSE 441 or STAT 511 or STAT 705, and IMSE 660

Typically Offered
Fall, Spring

IMSE 660 - Operations Research II

Credits: 3

Continuation of IMSE 560. Topics include: integer programming, nonlinear programming, Markov chains, and queuing theory.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 560 and STAT 510.

Typically Offered
Spring

IMSE 662 - Computer Aided Manufacturing

Credits: 3

Concepts in CAM, integrated control of machine tools and transport devices with production control. Concepts of CAM and automated assembly in small lot production environment.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 251 and CIS 209, or 200, or ME 400.

Typically Offered
Fall

IMSE 664 - Additive Manufacturing

Credits: 3

A study of current 3D printing or additive manufacturing technologies that convert a digital file into a physical object. Emphasis is on rapid prototyping involving materials, processes, techniques, and 3D printing machines. Capabilities and limitations of 3D printing technologies are included.

Note
Two hours lecture and two hours lab.

Repeat for Credit
N

Requisites
Prerequisite: ME 212.

Typically Offered
Spring-Odd Years

IMSE 666 - Operations Research III

Credits: 3

A continuation of IMSE 660. Covers more advanced aspects of LP and NLP. Introduces three new topics: normative theory of decision and games, dynamic programming and Markov decision systems.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 660. Prerequisite or concurrent: IMSE 530.

Typically Offered
Spring

IMSE 680 - Quantitative Problem Solving Techniques

Credits: 3

Survey of decision making techniques. Topics covered include: linear, integer and nonlinear programming; network flows and stochastic processes. A focus of the course will include modeling and the use of software to solve these problems.

Note
Three hours of lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 205.

Typically Offered
Summer

IMSE 685 - Principles of Manufacturing Information Systems

Credits: 3

Introduction to the theory and concepts of information for manufacturing. Design of manufacturing systems such as MRP, SFRS, CAD/CAM, etc. Concerns of integration and man-machine interface in manufacturing systems.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: IMSE computer programming elective from approved Departmental list.

Prerequisite or concurrent: IMSE 633.

Typically Offered
Spring

IMSE 710 - Transportation Logistics

Credits: 3

This course provides comprehensive coverage of logistics system design, analysis, and management, with a particular emphasis on freight transportation and supply chain systems. It introduces key challenges arising in supply chain systems, quantitative models for addressing these challenges, and methods for solving the models. Emphasis is placed on analyzing model results and communicating their implications for decision-making.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 660, IMSE 680 or IMSE 780.

Typically Offered
Spring-Odd Years

IMSE 730 - Data Engineering I – Time Series & Topological Data Analysis

Credits: 3

Introduction to theories and concepts of data analytic and machine learning on time series and topological data. Data models and analysis systems include forecasting, predictive models, process change point detections, classification, clustering, stage-dependent decisions applying to high-dimensional time series data and topological data. Applications include data integration and data-to-decisions in real-world systems, such as supply chain, logistics, financial engineering, and advanced manufacturing processes.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 441 (or (CIS 209 and STAT 511)), MATH 222, and MATH 551

Typically Offered
Spring

IMSE 751 - Normative Theory of Decisions and Games

Credits: 3

Bayes theorem, Bayesian estimators, utility, loss function and risk, minimax strategies, elementary game theory.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: STAT 510.

Typically Offered
Fall-Odd Years

IMSE 752 - Multiple Criteria Decision Analysis

Credits: 3

This course covers decision processes for problems involving multiple conflicting criteria, including individual and group decision making. Multiple approaches, including value function methods, goal/aspiration methods, and outranking methods, are considered.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 560

Typically Offered
Fall-Even Years

IMSE 760 - Stochastic Calculus Financial Engineering

Credits: 3

This course will serve as an introduction to the basic concepts and computing techniques of financial engineering and its real-life applications. These basics can be applied in many other aspects of Industrial Engineering used throughout stochastic processes, probability theory, system simulation, portfolio/risk management, and supply chain optimization.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 530; IMSE 660; and CIS 209, or CIS 200, or ME 400.

Typically Offered
Spring-Odd Years

IMSE 780 - Methods of Operations Research

Credits: 3

This course is intended to give an overview of OR at the graduate level. After this course, the student will have the general basic knowledge in OR and a better idea about the usefulness and interrelationships of the various subjects in O.R. Topics to be covered include the various optimization techniques, stochastic processes and optimization, and the various approaches in the treatment of uncertainty.

Note
Three hours recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 560 and STAT 510.

Typically Offered
Fall

IMSE 785 - Big Data Analytics

Credits: 3

Topics include big data management, data architecture of hosting big data, big data retrieval languages, parallel computing methods, big data analytical methods, and data visualization.

Repeat for Credit
N

Requisites
Prerequisite: CIS 209; STAT 510 or STAT 250.

Typically Offered
Summer

IMSE 802 - Advanced Topics in Industrial Engineering

Credits: 1-18

Lectures on recent advanced topics in industrial engineering.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

IMSE 804 - Advanced Independent Study in Industrial Engineering

Credits: 1-18

This course involves independent study of recent advanced topics in industrial engineering.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

IMSE 805 - Management of Research and Engineering

Credits: 3

Engineering administration; organization factors in decision-making.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: IMSE 501 or MANGT 220

Typically Offered
On sufficient demand

IMSE 806 - Engineering Project Management

Credits: 3

Planning, scheduling, and controlling engineering projects. Includes determination of appropriate project team, cost/benefit analysis, PERT and CPM scheduling

techniques, reporting, and use of computerized project management tools.

Note
Three hours lecture a week.

Repeat for Credit
Y

Requisites
Prerequisite: IMSE 530 and IMSE 501 or MANGT 220.

Typically Offered
Spring

IMSE 808 - Systems Engineering Fundamentals

Credits: 3

Systems engineering is an interdisciplinary engineering management process used to develop an integrated, life-cycle balanced set of system solutions that satisfy customer needs. This course provides the fundamentals of a systems engineering approach to solving complex engineering systems problems. This course will address systems engineering processes and tools as they relate to the development and life cycle management of complex systems. Topics included in the course are analyzing customer's needs, requirements development, systems design, development and integration, developing technical performance measures, system verification and managing cost, schedule, and risk in engineering tasks. This course will also introduce reliability, availability and maintainability concepts and their applicability with complex systems. This course is applicable to all engineering disciplines involved with complex engineering systems.

Repeat for Credit
N

Requisites
Prerequisite: 9 graduate credits from any engineering discipline, B.S. Engineering or Computer Science degree.

Typically Offered
On sufficient demand

IMSE 810 - Industrial Logistics Engineering

Credits: 3

The course provides comprehensive coverage of supply chain logistics components and system issues, including control of the movement of goods and information, coordination of supply and demand in creation and maximization of time and place utility. Emphasis is given to integrating workflow modeling, control, and design concepts and performance evaluation of logistic activities such as transportation, inventory, warehousing, and information technology. The systems viewpoint is explored at the individual firm level and from the perspective of inter-firm relationships among participants in logistics supply chains. Recognition is also given to important interrelationships between logistics and production, marketing, and financial management.

Note
Three hours recitation per week.

Repeat for Credit
Y

Requisites
Prerequisite: IMSE 660, IMSE 680 or IMSE 780.

Typically Offered
On sufficient demand

IMSE 811 - Advanced Production and Inventory Control

Credits: 3

Analytical and mathematical methods of making decisions on production, inventories, human resources, and shipping in modern industrial plants.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: IMSE 633.

Typically Offered
Spring

IMSE 822 - Advanced Engineering Economy

Credits: 3

This course expands on the principles of the fundamental

engineering economics analysis. Emphasis is placed on quantification and evaluation of risk and uncertainty factors, effects of inflation and taxes, economic consequences of estimating models, utility theory, engineering capital equipment replacement analysis and decision-tree and multi-attribute decision models.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 530, or ME 560, or CE 680.

Typically Offered
Fall-Odd Years

IMSE 825 - Tribology in Manufacturing

Credits: 3

An introduction to system approach to Tribology; Surface Topography; Physical, Chemical, and Geometric Nature of Surfaces; and the Mechanics of contact between surfaces. This course also investigates various theories of friction and wear; hydrodynamic; elastohydrodynamic, and boundary lubrication; frictional instabilities; rolling contact problems; and application of system methodology to tribological problems in engineering design and manufacturing.

Repeat for Credit
Y

Requisites
Prerequisite: PHYS 214 and IMSE 563.

Typically Offered
On sufficient demand

IMSE 830 - Applied Fuzzy Set Theory

Credits: 3

The emphasis will be on applicational aspects. Topics covered are elementary fuzzy set theory, fuzzy measure, possibility theory, fuzzy linear programming and other fuzzy optimization techniques, fuzzy linguistics and expert systems, fuzzy production and inventory control, and fuzzy operations research models.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 510.

Typically Offered
On sufficient demand

IMSE 841 - Advanced Topics in Quality Engineering

Credits: 3

A survey of current advances in quality engineering. Includes both off-line and on-line quality engineering.

Note
Three hours lecture a week.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 704, STAT 705; IMSE 641 and CIS 209, or CIS 200, or ME 400.

Typically Offered
Fall-Even Years

IMSE 842 - Reliability Theory

Credits: 3

The mathematics of reliability theory. The hazard function. Calculation of failure density and mean life for series, parallel systems, and various types of standby systems. Hypotheses tests on mean life. Life testing with censoring.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 511.

Typically Offered
On sufficient demand

IMSE 850 - Ergonomics (Human Factors) Engineering

Credits: 3

The design and analysis of applied experimental research on human behavior as applied to engineering systems. An experimental project.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 703.

Typically Offered
On sufficient demand

IMSE 865 - Simulation of Industrial Management Systems

Credits: 3

Simulating industrial management systems on computers utilizing Monte Carlo techniques and simulation languages. Numerical methods related to simulation.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 643.

Typically Offered
Summer-Odd Years

IMSE 866 - Applied Stochastic Processes

Credits: 3

Survey of stochastic processes. Topics covered include: discrete and continuous Markov chains, random walks, queuing theory and renewal theory.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: STAT 510.

Typically Offered
Fall-Even Years

IMSE 867 - Stochastic Programming

Credits: 3

Stochastic programming (SP) aims to determine optimal solutions in the presence of data uncertainty. The course covers two-stage stochastic linear programming, recourse, chance constraint optimization, multi-stage SP, stochastic integer programming, Benders decomposition, L-shaped method, heuristics, simulation-based (Monte Carlo simulation) methods, and bounds on optimal solutions. Numerous applications exist, and examples may be taken from agriculture planning, manufacturing, supply chain, reliability, cyber security, power grids or other systems.

Repeat for Credit
N

Requisites
IMSE 560 and STAT 510 or equivalent

Typically Offered
Fall-Odd Years

IMSE 868 - Manufacturing Processes for Semiconductor Materials and Devices

Credits: 3

Research topics on manufacturing processes for semiconductor materials and devices. Processes covered include; crystal growing, slicing, edge profiling, lapping, wafer grinding, wet etching, polishing, cleaning, oxidation, lithography, dry etching, diffusion, metallization, CMP (Chemical-Mechanical Planarization), backside thinning, dicing, bonding, packaging, final testing.

Note
Three hours lecture a week.

Repeat for Credit
Y

Requisites

Prerequisite: IMSE 250 and IMSE 563.

Typically Offered
Fall-Even Years

IMSE 871 - Advanced Topics in Computer Integrated Manufacturing

Credits: 3

Modern issues of computerized manufacturing considering both hardware and software approaches and methods. Advanced concepts in intelligent machine programming and applications, group technology, computer aided process planning, and scheduling will be discussed. Research issues will be presented.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 633, IMSE 662 or equivalents.

Typically Offered
On sufficient demand

IMSE 872 - Industrial Forecasting Techniques and Applications

Credits: 3

The problems of model construction for industrial forecasting. The application of least squares, regression, exponential smoothing, and adaptive fitting will be studied in solving industrial engineering problems.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: STAT 511 or STAT 705.

Typically Offered
On sufficient demand

IMSE 873 - Industrial Systems Analysis

Credits: 1-18

Analysis and synthesis of automatic control systems with application to machines and processes and industrial management systems. A study of optimal control, stability, and sensibility of industrial management systems.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: Consent of instructor and IMSE 660.

Typically Offered
On sufficient demand

IMSE 881 - Linear Programming

Credits: 3

Development of the theory of linear programming and related topics including simplex methods, duality theory, integer programming, transportation methods, and stochastic linear programming. Application to industrial problems and the use of computer solutions are emphasized.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: IMSE 560.

Typically Offered
Fall-Even Years

IMSE 882 - Network Flows and Graph Theory

Credits: 3

Survey of topics from Network Flows and Graph Theory with an emphasis on algorithmic analysis. The topics covered include: Complexity Analysis, Shortest Paths, Maximum Flows, Network Simplex, Minimum Spanning Trees, Matching, Planar Graphs, Colorings, Perfect Graphs and Heuristics.

Note
Three hours lecture a week.

Repeat for Credit
Y

Typically Offered
Spring-Even Years

IMSE 884 - Integer Programming and Combinatorial Optimization

Credits: 3

Solution techniques to optimization problems invloving integer variables. The topics covered include: single-and multiple-branching, implicit enumeration, polyhedral theory and cutting planes, mixed integer programs, unimodular matrices and matroids.

Note
Three hours lecture a week.

Repeat for Credit
Y

Requisites
Prerequisite: IMSE 660.

Typically Offered
Spring-Odd Years

IMSE 885 - Advanced Manufacturing Information Systems

Credits: 3

Survey of topics in Computer Integrated Manufacturing. Issues such as the Manufacturing Automation Protocol (MAP), representation of solids in CAD, storage and retrieval of such information are considered.

Note
Three hours lecture a week.

Repeat for Credit
Y

Requisites
Prerequisite: IMSE 685 or equivalent.

Typically Offered
On sufficient demand

IMSE 888 - Research Methods in Industrial Engineering

Credits: 3

This course will provide students with effective methods to perform literature reviews, survey current solution methodologies, develop and evaluate research and present research results.

Repeat for Credit
Y

Requisites
Prerequisite or concurrent enrollment: IMSE 780 or IMSE 641 or IMSE 811.

Typically Offered
On sufficient demand

IMSE 889 - Applied Methods in Industrial Engineering

Credits: 1

This class requires students to have at least 6 weeks of full-time work experience in a job related to Industrial Engineering.

Note
This course can be taken only once by a graduate student. Approval of major professor and department head.

Repeat for Credit
Y

Typically Offered
Summer

IMSE 890 - Applied Methods in Industrial Engineering II

Credits: 2

This class requires students to have at least 12 weeks of full-time work experience in a job related to Industrial Engineering.

Note
This course can be taken only once by a graduate student. Approval of major professor and department head.

Repeat for Credit

Y

Typically Offered
Fall, Spring, Summer

IMSE 892 - Graduate Seminar in Industrial Engineering

Credits: 0

Presentation and discussion of topics of contemporary interest in industrial or manufacturing engineering. M.S. and Ph.D. candidates make one presentation.

Note
One one-hour seminar meeting a week.

Repeat for Credit
Y

Typically Offered
Fall, Spring

IMSE 898 - Master's Report

Credits: 1-18

Topics selected with approval of major professor and department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

IMSE 899 - Master's Thesis

Credits: 1-18

Topics selected with approval of major professor and department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

IMSE 971 - Industrial Queuing Processes

Credits: 3

Introduction to the queuing process and theory of queues; analysis of single and multistation queues; application to production, materials handling, inventory and maintenance systems.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 510.

Typically Offered
On sufficient demand

IMSE 976 - Scheduling Theory

Credits: 3

Project scheduling, assembly line balancing, shop scheduling, basic structure, measures of performance, combinatorial and statistical aspects. Various approaches to the analysis of shop scheduling.

Note
Three hours recitation a week. Consent of instructor.

Repeat for Credit
N

Typically Offered
On sufficient demand

IMSE 980 - Advanced Topics in Manufacturing Research

Credits: 1-3

Study of topics related to recent advances in manufacturing processes and manufacturing engineering. Selected topics vary by semester according to the interests and needs of students and faculty.

Repeat for Credit
Y

Typically Offered
On sufficient demand

IMSE 982 - Nonlinear Programming

Credits: 3

Study of nonlinear models and their solution. Topics covered are nonlinear programming including Kuhn-Tucker theory, quadratic programming, separable programming, geometric programming, gradient and search methods, quasilinearization, and invariant imbedding.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 510.

Typically Offered
Spring-Even Years

IMSE 990 - Advanced Topics in Operations Research

Credits: 1-6

Study of topics related to operations research not covered in other courses. Selected according to the interests and needs of graduate students.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
On sufficient demand

IMSE 991 - Advanced Topics in Decision Theory

Credits: 3

Decision processes for problems involving multiple conflicting criteria; multiple attribute decision making; multiple objective decision making, and group decision making under multiple criteria. Various methods/approaches for different problems are discussed.

Note
We are concurrently introducing IMSE 752 so that the undergraduate student can take it. This 991 course will be for graduate students only.

Repeat for Credit
N

Requisites
Prerequisite: IMSE 751 or IMSE 752.

Typically Offered
On sufficient demand

IMSE 999 - Dissertation Research

Credits: 1-18

Topics selected with approval of major professor and department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

INDD 292 - Design Thinking

Credits: 3

Design Thinking is the process of analyzing the problem areas from a given project statement and generating a solution through observation, research, conceptualization, and iteration. Through this course, students will learn how to apply user-centered design approaches to a given design challenge. This course will cover selected design thinking tools and methods in four phases: 1) Explore, 2) Discover, 3) Develop, and 4) Deliver. Several case studies will demonstrate how Design Thinking can be applied to other fields, and students will share their reflections and experiences about how they can make use of the process, methods, and tools they have learned in their respective fields.

Repeat for Credit
N

Typically Offered
Summer

K-State Core
6 Arts and Humanities

INDD 307 - INDD Design Studio I

Credits: 5

Introduction to design research, user behavior, ergonomics, and human factors in the context of product design. Projects focus on iterative ideation and development through ink and marker sketching and physical model making. Students will learn to document and present designs including physical models, detailed renderings, and documentation of their design development process.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the professional program in industrial design.

Typically Offered
Fall

INDD 310 - INDD Digital Applications

Credits: 2

Provides an advanced understanding of digital lighting, materials, animation, advanced modeling techniques, and renders. Explores parametric design uses and applications. Investigates strategies and techniques to create products using digital tools.

Repeat for Credit
N

Requisites
Prerequisite: IAID 431.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

INDD 320 - INDD Design Studio II

Credits: 5

Basic principles of Product Design process through research, ideation, sketching, modeling, prototyping and presentation. Explores and analyzes complex social, cultural, and economical aspects of society for product design development.

Repeat for Credit
N

Requisites
Prerequisite: INDD 307.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

INDD 325 - Human Factors in Industrial Design

Credits: 3

Deals with an interdisciplinary science focusing on the interaction of human performance, capabilities, limitations and behavior with design factors in performance environments like workplaces and products with the emphasis on optimal safety, efficiency, productivity and comfort for diverse human populations.

Repeat for Credit
N

Requisites
Prerequisite: INDD 307

Typically Offered
Fall

INDD 350 - Product Semantics

Credits: 3

Explores visual and symbolic qualities of the man-made forms in the context of their use and application of this knowledge in order to understand the aspects of communication in Industrial Design. Course also focuses on the cognitive and social context of the products.

Repeat for Credit
N

Typically Offered
Spring

INDD 433 - User Interface and User Experience Design

Credits: 3

In-depth study of the development, strategy, and execution of interactive products and services to create meaningful experiences that enhance user engagement and satisfaction within the scope of industrial design. Applies user-centered design by conducting user research including surveys, interviews, and usability testing. Students will create prototypes with high fidelity mockups using industry standard tools.

Repeat for Credit
N

Requisites
Prerequisite: INDD 435 and INDD 310

Typically Offered
Spring

INDD 435 - INDD Design Studio III

Credits: 5

Advanced principles of the Industrial Design process. Explores different theories and techniques to develop products utilizing Human Centered Design, Design Thinking, and Universal Design. Holistic thinking in regard to ethical responsibility throughout the product's Life Cycle from decisions made in manufacturing processes, material choices and human factor design.

Repeat for Credit
N

Requisites
Prerequisite: INDD 320.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

INDD 440 - INDD Design Studio IV

Credits: 5

Exposes students to a deeper understanding about user experience, user interface and form development in the Industrial Design process. Provides an advance research and analysis of design problems and opportunities, using Human Centered Design, Universal Design and Design Thinking.

Repeat for Credit
N

Requisites
Prerequisite: INDD 435.

Typically Offered
Spring

INDD 500 - Materials and Manufacturing Processes

Credits: 3

Seeks to provide an advanced understanding of materials and processes commonly used by Industrial Designers and manufacturers. The objective is to develop a more precise, professional and accurate approach to design while broadening the student's technical base.

Repeat for Credit
N

Typically Offered
Spring

INDD 520 - Materials and Manufacturing Processes II

Credits: 3

Building upon the knowledge established in INDD 500, this course deepens comprehension of materials and processes. Emphasizing practical applications to a design development and expand student's technical proficiency.

Repeat for Credit
N

Requisites
Prerequisite: INDD 500

Typically Offered
Fall

INDD 600 - Professional Practice

Credits: 3

Studies of conventional and newly developing modes of

professional design practice. Presented are the relationships of Industrial Designers to users, clients, manufacturing industry, society, government, and one another. Provides an overview of design services and principal structures for industrial designers including consultancy, in-house, freelance, and self-production.

Repeat for Credit
N

Requisites
Prerequisite: INDD 435

Typically Offered
Spring

INDD 605 - Problems in INDD

Credits: 1-18

Study of specific Industrial Design problems under the direct supervision of a member of the department.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

INDD 606 - INDD Design Studio V

Credits: 5

This semester of study provides an option for an interdisciplinary collaborative studio course oriented towards replicating the learning experience and interactive activities that takes place in the modern multidisciplinary professional office or a validated equivalent studio completed in an approved study program.

Repeat for Credit
N

Requisites
Prerequisite: INDD 440.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

INDD 644 - Internship

Credits: 9

Fifteen-week internship in a professional environment with a focus on Industrial Design and/or Furniture Design: office and field experience.

Repeat for Credit
N

Requisites
Prerequisite: INDD 440. Corequisite: INDD 645

Typically Offered
Fall, Spring, Summer

INDD 645 - Internship Report

Credits: 5

Development of the student's analysis; observation, and communication skills in relationship to the professional office and field environment. Detailed documentation, online and on-campus, of the experiences encountered during internship, allowing classmates to learn from their peer's varied experiences as well as provide detailed documentation of the student's work during internship.

Repeat for Credit
N

Requisites
Prerequisite: INDD 440. Corequisite: INDD 644

Typically Offered
Fall, Spring, Summer

INDD 664 - Summer Internship

Credits: 6

Ten-week internship in a professional environment with a focus on Industrial Design and/or Furniture Design: office and field experience.

Repeat for Credit
N

Requisites
Prerequisite: INDD 440. Corequisite: INDD 665

Typically Offered
Summer

INDD 665 - Summer Internship Report

Credits: 1

Development of the student's analysis; observation, and communication skills in relationship to the professional office and field environment. Detailed documentation, online and on-campus, of the experiences encountered during internship, allowing classmates to learn from their peer's varied experiences as well as provide a detailed documentation of the student's work during internship.

Repeat for Credit
N

Requisites
Prerequisite: INDD 440. Corequisite: INDD 664

Typically Offered
Fall, Spring, Summer

INDD 755 - Professional Practice: Discipline-Specific Topics

Credits: 1

Covers discipline-specific concerns, focusing on issues specific to architecture, interior architecture and product design, landscape architecture or regional and community planning.

Repeat for Credit
N

Typically Offered
Fall, Spring

INDD 800 - Professional Practice

Credits: 3

Studies of conventional and newly developing modes of professional design practice. Presented are the relationships of Industrial Designers to users, clients, manufacturing industry, society, government, and one another. Provides an overview of design services and principal structures for industrial designers including consultancy, in-house, freelance, and self-production.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing.

Typically Offered
Spring

INDD 801 - INDD Design Studio VI

Credits: 5

Examines the interdisciplinary and collaborative design process with the aim of different formations in accordance with entrepreneurship studies, marketing, business, and engineering, as well as research and development. Focus areas vary from interdisciplinary practices to innovative technologies.

Repeat for Credit
N

Typically Offered
Spring

INDD 810 - INDD Capstone Studio

Credits: 5-6

Students are to pursue design projects that encompass their previous educational experience validating their knowledge of the INDD program studies. The project will be based on extensive research and review. The project presentation will suggest unique and applicable solutions with clearly identified methodology of implementation.

Repeat for Credit
N

Requisites
Prerequisite: INDD 801, INDD 811.

Typically Offered
Fall, Spring, Summer

INDD 811 - Design Research

Credits: 3

Identify evaluation criteria appropriate for design research and problem-solving; analysis of literature; construction of problem statements, development and documentation of design problem proposals and reports.

Repeat for Credit
N

Requisites
Prerequisite: INDD 440.

Typically Offered
Fall, Spring, Summer

INDD 815 - Advanced Studio Programming

Credits: 2-3

Research of programming methodologies culminating in a programmatic document used as the basis for the design project in INDD 822 or IAID 824.

Repeat for Credit
N

Requisites
Prerequisite: INDD 801.

Typically Offered
Fall, Spring, Summer

INDD 822 - Advanced Industrial Design Studio

Credits: 6

Students explore projects programmed under the previous semester INDD 815: Advanced Studio Programming. Projects must be relevant in a contemporary socio-cultural, architectural and technological context; employ rigorous design research processes and methodologies; identify user and usability needs/desires; accommodate market opportunities and constraints; explore multiple conceptual solutions in a variety of hand and digital media; build and document models and prototypes; and estimate material and manufacturing costs.

Note

A book, oral and visual presentation and display materials for an exhibition of the student's work will be required at the completion of the course.

Repeat for Credit
N

Requisites
Prerequisite: INDD 810, INDD 815.

Typically Offered
Fall, Spring, Summer

ITAL 101 - Italian I

Credits: 4

Introduction to the structure of modern Italian.

Repeat for Credit
N

Typically Offered
Other

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

ITAL 102 - Italian II

Credits: 4

Continuation and completion of the study of modern Italian grammar, using the facilities of the language laboratory for audiolingual practice.

Repeat for Credit
N

Requisites
Prerequisite: ITAL 101 or equivalent.

Typically Offered
Other

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

ITAL 105 - Italian for Travelers

Credits: 1-8

Prepares students for everyday situations on a visit to Italy.

Repeat for Credit

N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

ITAL 300 - Italian III

Credits: 4

Grammar review and reading selections from Italian literature.

Repeat for Credit
N

Requisites
Prerequisite: ITAL 102 or equivalent.

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

ITAL 301 - Italian IV

Credits: 4

Selective review of grammar and reading of examples of modern Italian literature.

Repeat for Credit
N

Requisites
Prerequisite: ITAL 300.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

ITAL 520 - Special Studies in Italian

Credits: 1-18

Special Studies in Italian

Note
Consent of department head and instructor involved.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Aesthetic Interpretation

JAPAN 101 - Japanese I

Credits: 4

Introduction to the fundamental linguistics and cultural characteristics of the Japanese language and its writing systems (Hiragana, Katakana, and Kanji).

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

JAPAN 200 - Japanese II

Credits: 4

Continuation of Japanese I. Development of functional skills for familiar situations.

Repeat for Credit
N

Requisites
Prerequisite: JAPAN 101 or equivalent.

Typically Offered
Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

JAPAN 201 - Japanese III

Credits: 4

Continuation of Japanese II with emphasis on building and applying basic language knowledge in communicative tasks; exercises in oral interactions and interactions involving text; weekly language lab; approx. 1-- new kanji in text.

Note
Not open to native speakers of Japanese.

Repeat for Credit
N

Requisites
Prerequisite: JAPAN 200 or equivalent.

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

JAPAN 299 - Special Studies in Japanese

Credits: 1-8

Special Studies in Japanese

Repeat for Credit
Y

Requisites
Prerequisite: Permission of the instructor.

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

JAPAN 301 - Japanese IV

Credits: 4

Continuation of Japanese III. Enhancement of speaking and writing skills, and reading and listening comprehension.

Repeat for Credit
N

Requisites
Prerequisite: JAPAN 201 or equivalent.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

JAPAN 391 - Culture of Japanese Communication

Credits: 3

Introduction to verbal and nonverbal cultural aspects of Japanese discourse. Includes comparative study, followed by discussion on application of knowledge in cross-cultural context.

Repeat for Credit
N

Requisites
Prerequisite: JAPAN 191.

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

JAPAN 501 - Japanese V

Credits: 3

Development of communication skills through application

activities such as problem-solving tasks and role plays. Enhancement of vocabulary, structures, and their usage. Emphasis on extended discourse.

Repeat for Credit
N

Requisites
Prerequisite: JAPAN 301 or equivalent.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

JAPAN 502 - Japanese VI

Credits: 3

Continuation of Japanese V. Development of functional skills for general situations.

Repeat for Credit
N

Requisites
Prerequisite: JAPAN 501 or equivalent.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

JAPAN 599 - Special Studies in Japanese

Credits: 0-18

Special Studies in Japanese

Note
Consent of department head and instructor.

Repeat for Credit
Y

Typically Offered
Other

K-State 8
Aesthetic Interpretation

KIN 100 - Adaptive Physical Activities

Credits: 1

Exercise programs adapted to the needs of the special student.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

KIN 101 - Topics in Strength and Conditioning

Credits: 1

Discussion of topics and participation in activities of importance in strength and conditioning.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

KIN 102 - Topics in Aerobic Exercise

Credits: 1

Discussion of topics and participation in activities of importance in aerobic exercise.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

KIN 104 - Swimming I

Credits: 1

Beginning instruction for students who have no previous experience with swimming.

Repeat for Credit
N

Typically Offered
Fall, Spring

KIN 105 - Swimming II

Credits: 1

For the beginning swimmer who has had some previous swimming experience.

Repeat for Credit
N

Typically Offered
Other

KIN 106 - Swimming III

Credits: 1

Swimming III

Note
For students in the College of Health and Human Sciences, no more than 4 credit hours in lifetime sports and exercise activity classes may be applied toward a degree.

Repeat for Credit
N

Requisites
Prerequisite: KIN 105 or consent of instructor.

Typically Offered
Other

KIN 107 - Fitness Swimming

Credits: 1

Fitness Swimming

Note
For students in the College of Health and Human Sciences, no more than 4 credit hours in lifetime sports and exercise activity classes may be applied toward a degree.

Repeat for Credit
N

Requisites
Prerequisite: KIN 106 or consent of instructor.

Typically Offered
Other

KIN 108 - Strength and Conditioning Specialist

Credits: 2

Course prepares students for completion of exam required for Certified Strength and Conditioning Specialist (CSCS) credential from the National Strength and Conditioning Association.

Note
Online lecture/lab.

Repeat for Credit
N

Requisites
Prerequisite: KIN 220, KIN 335, Junior standing and above.

Typically Offered
Summer

KIN 109 - Professional Development for Coaches

Credits: 2

Principles of improving relationships, enhancing engagement and gaining trust of athletes through targeted communication.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

KIN 111 - Adaptive Training

Credits: 2

Course covers techniques related to functional fitness classes for Adaptive Athletes including veterans, active duty personnel, and civilians alike.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

KIN 112 - Electrocardiography Technician Certification Preparation

Credits: 2

Course presents an introductory overview related to the anatomy and physiology of the heart and explores normal electrical conduction as well as common variations as evidenced by changes in the waveform on the cardiac monitoring device. Focus on the student's ability to perform cardiac monitoring via 3, 5 and 12 lead monitoring devices and prepare students certification as an electrocardiography technician through the National Healthcareer Association.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

KIN 114 - Phlebotomy Certification Preparation

Credits: 2

This course is designed to present students with an introduction to phlebotomy & infection control, legal issues, human anatomy & physiology, phlebotomy equipment & supplies, phlebotomy procedures, and phlebotomy fundamental essentials. Allows for preparation for the Certified Phlebotomy Technician certification exam offered by the National Healthcareer Association.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

KIN 160 - Aerobic Dancing and Exercise

Credits: 1

Aerobic Dancing and Exercise

Note
For students in the College of Health and Human Sciences, no more than 4 credit hours in lifetime sports and exercise activity classes may be applied toward a degree.

Repeat for Credit
N

Typically Offered
Other

KIN 161 - Fitness and Conditioning

Credits: 1

Fitness and Conditioning

Note
For students in the College of Health and Human Sciences, no more than 4 credit hours in lifetime sports and exercise activity classes may be applied toward a degree.

Repeat for Credit
Y

Typically Offered
Other

KIN 162 - Jogging

Credits: 1

Jogging

Note
For students in the College of Health and Human Sciences, no more than 4 credit hours in lifetime sports and exercise activity classes may be applied toward a degree.

Repeat for Credit
N

Typically Offered
Other

KIN 163 - Weight Training

Credits: 1

For students in the College of Health and Human Sciences, no more than 4 credit hours in lifetime sports and exercise activity classes may be applied toward a degree.

Repeat for Credit
Y

Typically Offered
Other

KIN 220 - Biobehavioral Bases of Physical Activity

Credits: 4

Current perspectives from the biological and behavioral domains of kinesiology will be used to explore the significance of physical activity for optimal health. Topics include physiology of physical activity, social and behavioral epidemiology of physical activity and health, control and biomechanics of human movement.

Note
Three hours of lecture and two hours of lab experiences.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
4 Natural and Physical Sciences

K-State 8
Human Diversity within the U.S.
Natural and Physical Sciences

KIN 230 - Introduction to Public Health

Credits: 3

An introductory survey course designed to provide a history of public health, an overview of the five core disciplines (epidemiology, biostatistics, environmental health, social and behavioral health, and health policy and management), and information about career options in public health. Investigation and analysis of contemporary issues in public health such as bioterrorism, threats to the nation's food supply, the importance of health promoting behaviors in the prevention of disease, distribution of infectious diseases on a global population, and the role of public health in disaster preparedness and management.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
FNDH 110

K-State 8
Global Issues and Perspectives
Social Sciences

KIN 310 - Measurement and Research Techniques in Kinesiology

Credits: 4

Theory and techniques of measurement and research in the biological and behavioral aspects of kinesiology.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

KIN 312 - Methods and Analysis of Public Health

Credits: 3

Introductory course on conducting and critiquing research in public health through fundamental principles of public health research methodologies. Skills developed include understanding ethical approaches to research and working with humans, and critically appraising data from scientific studies, understand materials and issues associated with the logic of the scientific method, research design, and qualitative and quantitative analysis.

Repeat for Credit
N

Requisites
Prerequisite: A grade of C or higher in KIN 230.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

KIN 318 - Rural Community Health

Credits: 3

Study of social, economic, political, and cultural influences that impact the health of individuals and families in rural communities with special focus on Kansas and the Midwest. Focuses on theories and concepts relevant to rural community health and their utility in designing rural public health interventions.

Repeat for Credit
N

Requisites
Prerequisite: A grade of C or higher in KIN 230.

Typically Offered
Fall, Spring

KIN 320 - Motor Learning and Development

Credits: 3

Issues of motor learning and development as they relate to the application of instructional techniques.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
On sufficient demand

K-State 8
Natural and Physical Sciences

KIN 330 - Biomechanics

Credits: 3

Mechanical and anatomical aspects of human movement. Kinematic and kinetic principles applied to the analysis of human movement.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: C or better in KIN 220; and a C or better in either KIN 360, or BIOL 441 and BIOL 442, or 8 hours of Anatomy and Physiology transfer credit.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

KIN 335 - Physiology of Exercise

Credits: 4

The responses of the human body to exercise. Emphasis will be placed on understanding the structure-function relationships of the respiratory, cardiovascular, and muscular systems and how their function is integrated to support the dynamics of muscular contraction. Limitations to exercise performance will be examined in health and disease and the adaptability of the human body to physiological (i.e., exercise training) and environmental (e.g., hypoxia) stressors will be examined.

Note
Four hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: C or better in either KIN 360, or BIOL 441 and BIOL 442, or 8 hours of Anatomy and Physiology transfer credit.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

KIN 336 - Physiology of Exercise Lab

Credits: 1

A laboratory course to supplement the material of KIN 335.

Note
Two hours lab per week.

Repeat for Credit
N

Requisites
Prerequisite: KIN 335 or concurrent enrollment.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

KIN 345 - Exercise Behavioral Science

Credits: 5

Examination of the social and behavioral determinants of physical activity using a social ecological framework. Social ecological levels include individual, interpersonal, community, institutional and societal/policy factors.

Repeat for Credit
N

Requisites
Prerequisite: KIN 220, PSYCH 110; SOCIO 211 with a grade of C or better.

Typically Offered
Fall, Spring

K-State 8
Social Sciences

KIN 346 - Laboratory Experience for Social and Behavioral Epidemiology of Public Health Physical Activity

Credits: 1

A laboratory experience for KIN 345.

Note
Two hours of contact time per week.

Repeat for Credit
N

Requisites
Prerequisite: Concurrent enrollment in KIN 345.

Typically Offered
Other

K-State 8
Social Sciences

KIN 360 - Anatomy and Physiology

Credits: 8

Anatomy and Physiology of the organ systems of the human body. Laboratory includes physiology experiments, study of anatomy from computer simulation, dissection demonstrations, X-rays, and slide work.

Note
Five hours lecture and two three-hour lab sessions a week.

Repeat for Credit
N

Requisites
Prerequisite: C or better in either BIOL 198 or transferred introductory Biology credit.

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences

KIN 361 - Anatomy and Physiology I

Credits: 4

Rigorous, comprehensive study of human anatomy and physiology at the cellular, tissue, and organ systems level with an emphasis on the structure/function relationships of the integumentary, skeletal, muscular, and nervous systems.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198 or equivalent with a grade of C or better.

Typically Offered
Fall, Spring, Summer

KIN 362 - Anatomy and Physiology II

Credits: 4

Rigorous, comprehensive study of human anatomy and physiology at the cellular, tissue, and organ systems level

with an emphasis on the structure/function relationships of the endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198 or equivalent with grade of C or better and KIN 361.

Typically Offered
Fall, Spring, Summer

KIN 380 - Principles of Exercise Training

Credits: 3

This course is designed to cover the application of current scientific research on program design for healthy athletes competing in any sport or physically active individuals. Contributing science include anatomy, biochemistry, biomechanics, endocrinology, nutrition, exercise physiology and psychology. Emphasis will be placed on adaptations to resistance training, plyometric training, speed/agility/speed endurance training and aerobic endurance training. Exercise Techniques, Testing and Evaluation and Program Design will also be major components of the course. Students should be prepared for strenuous physical activity.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

KIN 381 - Exercise and Chronic Disease

Credits: 3

Focus on the epidemic of chronic disease impacting society and the benefits/use of exercise as a therapy for selected diseases.

Repeat for Credit
N

Requisites
Prerequisite: KIN 335 with a grade of C or better.

Typically Offered
Fall, Spring, Summer

KIN 382 - Strength and Conditioning for Performance

Credits: 3

Examine relationship of imposed physical demands (stress) on physiological adaptation. Both the mechanisms of adaptation and the methods used to impose desired adaptations will be investigated. Focus on performance outcomes including strength training, power training (RFD), speed training, and endurance training.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

KIN 383 - Exercise and Older Adults

Credits: 3

Examines the relationship between exercise and the aging process. Specific focus will be on the impacts of aging on the organ systems of the human body, the extent to which exercise may beneficially impact this process, and methodology for assessment of fitness and prescription of exercise in the older adult population

Repeat for Credit
N

Requisites
Prerequisite: KIN 220 with a C or better.

Typically Offered
Fall, Spring, Summer

KIN 384 - Certifications in Health and Fitness

Credits: 3

Examine careers and certifications available within the field of Kinesiology/Applied Fitness.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

KIN 385 - Fundamentals of Health and Fitness

Credits: 3

Examine human behavior and exercise as the forefront of discussions about health. Examine relationship between health behavior, exercise, inactivity, and fitness adaptations.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

KIN 386 - Pediatric Physical Activity, Exercise & Sport

Credits: 3

Introduction to physiological and behavioral exercise considerations for a holistic approach to increasing activity levels effectively and safely in the pediatric population. Prepares students planning to work with healthy to obese 3-17 year olds in physical activity, exercise, and sport to encourage lifelong physical activity adherence and obesity reduction.

Repeat for Credit
N

Requisites
Prerequisite: KIN 220

Typically Offered
Summer

KIN 387 - Introduction to Integrative Human Pathophysiology

Credits: 3

Focus on the main mechanisms that lead to organ and system dysfunction. The basic processes covered will highlight some common diseases, rather than covering an exhaustive list of known diseases.

Repeat for Credit
N

Requisites
Prerequisite: C or better in either KIN 360 or BIOL 441 and BIOL 442; or 8 hours of Anatomy and Physiology transfer credit at C or better.

Typically Offered
Fall, Spring, Summer

KIN 398 - Topics in Kinesiology

Credits: 1-3

Study of a selected topic in an area not covered in the curriculum or involving application of theory presented in a related subject core course.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

KIN 418 - Social Determinants and Diversity in Public Health

Credits: 3

Examination of social determinants of health such as class, race, and gender, and an exploration of how social inequalities have contributed to differences in health among certain population groups. Topics addressed include immigration patterns, social justice, health equity, and promoting cultural competency.

Repeat for Credit
N

Requisites
Prerequisite: A grade of C or higher in KIN 230; SOCIO 211.

Typically Offered
Fall, Spring

KIN 419 - Health Policy and Administration

Credits: 3

Provides understanding of health policy issues at the local, state, federal, and global levels, with focus on U.S. health policy-making and law including health insurance, health economics, legal system, health policy and law including health insurance, health economics, individual rights in health care, and health care access and quality.

Repeat for Credit
N

Requisites
Prerequisite: A grade of C or higher in KIN 230.

Typically Offered
Fall, Spring

KIN 430 - Practicum in Lifetime Sports

Credits: 2

Supervised students assist in lifetime sports classes.

Note
Four hours lab a week.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing and consent of Undergraduate Coordinator.

Typically Offered
Fall, Spring

KIN 463 - Laboratory Practicum in Kinesiology

Credits: 1-2

Supervised students assist in laboratory.

Note
Four hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing and successful completion of lab experience, consent of undergraduate coordinator.

Typically Offered
Fall, Spring

KIN 498 - Honors Tutorial in Kinesiology

Credits: 1-3

Individually directed research in kinesiology, normally as a preliminary to writing a senior honors thesis.

Repeat for Credit
Y

Requisites
Prerequisite: Sophomore standing, membership in the honors Program of the College of Health and Human Sciences, and permission of instructor.

Typically Offered
Fall, Spring

KIN 499 - Honors Project

Credits: 3

Open only to Health and Human Sciences students who are active members of the University Honors Program.

Repeat for Credit
N

Requisites
Prerequisite: Membership in Human Ecology Honors Program.

Typically Offered
Fall, Spring, Summer

KIN 520 - Practicum in Fitness Settings

Credits: 1-3

Practical experiences in the fitness setting such as observation and participation in exercise testing and prescription, exercise leadership, and record keeping and program management.

Note
Consent of School required

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

KIN 521 - Prac/Public Health Physical Activity

Credits: 1-3

Practical experiences in the public health setting, such as

observation and participation in public health physical activity program planning and evaluation.

Repeat for Credit
N

Requisites
Prerequisite: C or better in both KIN 310 and KIN 345 and instructor consent.

Typically Offered
Fall, Spring, Summer

KIN 550 - Health Promotion Practice Methods

Credits: 4

A health promotion course in which the role of a public health professional in community-based program planning will be discussed including the steps of a needs assessment. Additionally, students will learn various intervention strategies that can be used in the public health field to promote health. Major concepts, theories, and principles of health promotion/education and intervention strategies will form the foundation of this class. Cultural, social, and developmental influences on health behavior will also be explored.

Repeat for Credit
N

Requisites
Prerequisite: KIN 418

Typically Offered
Fall

KIN 580 - Internship in Kinesiology

Credits: 3-8

Supervised field experience in approved fitness, strength and conditioning, clinical, public health, or healthcare setting 3-8 credit hours, 50 hours required at the internship site per credit.

Note
May be completed with half-time assignment for 12-16 weeks or full-time assignment for 6-8 weeks. Consent of School required.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

KIN 591 - Psychology of Exercise and Sport Injury

Credits: 3

Underlying effects, treatment of psychological consequences, and physical trauma of exercise and sport injury. Topics include the impact of injury on exercise behavior, the athlete at risk, behavioral risk factors, injury assessment, treatment of injury, and psychological factors addressed by the sports medicine team.

Repeat for Credit
N

Typically Offered
Summer

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

KIN 592 - Sport and Exercise Personality

Credits: 3

The role of personality in sport, sport performance and exercise behavior. Theories relevant to sport and exercise personality will be examined to provide a theoretical framework for understanding and applying research. Assessment instruments and relevant research will be examined and critiqued.

Repeat for Credit
N

Requisites
Prerequisite: A grade of C or higher in KIN 310 and KIN 345.

Typically Offered
Intersession

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

KIN 594 - Sport and Exercise Psychology

Credits: 3

This course is designed to introduce the student to the basic psychological principles related to sport and exercise behavior and performance. Factors that influence sport performance will be examined as will the principles related to exercise and exercise behavior.

Repeat for Credit
N

Typically Offered
Spring, Summer

KIN 596 - Teaching Experience in Kinesiology

Credits: 3

This course will be a learning experience for students supporting a faculty course. Objectives include identifying and discussing learning and teaching, leading discussions, and providing assistance and direction to students in the course.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

KIN 597 - Research Experience in Kinesiology

Credits: 0-3

Exposure to and assisting with current research projects in a laboratory setting in Kinesiology.

Note
Consent of School required. Maximum of 3 credit hours applicable toward a degree.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

KIN 598 - Topics in Kinesiology

Credits: 1-3

Study of a selected topic in kinesiology involving either an in-depth study or application of theory presented in a related core course.

Repeat for Credit
Y

Requisites
Prerequisite: Related core course.

Typically Offered
On sufficient demand

KIN 599 - Independent Studies in Kinesiology

Credits: 1-3

Selected topics in kinesiology. Maximum of 3 hours applicable towards a degree.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring

KIN 600 - Interpersonal Aspects of Physical Activity

Credits: 3

Examination of theory and research related to interpersonal aspects of physical activity. Topics include: social networks, social support, social influence, cohesion and intervention strategies that target interpersonal factors to increase and maintain physical activity participation.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in KIN 310 and KIN 312; and a grade of C or better in KIN 345.

Typically Offered
Fall, Spring

KIN 601 - Cardiorespiratory Physiology

Credits: 3

An examination of the structure and function of the respiratory system and the manner in which oxygen passes from the atmosphere to its site of utilization in the mitochondria. Exercise, disease, and environmental stresses will form the basis for examining the capacity, plasticity, and limitations to respiratory function.

Repeat for Credit
N

Requisites
Prerequisite: A grade of C or higher in both KIN 310 and KIN 335.

Typically Offered
Spring-Odd Years

KIN 602 - Social Structural Determinants of Physical Activity

Credits: 3

An examination of how social structural determinants impact participation in physical activity. Topics include: social class, race and ethnicity, gender, sexual orientation, family, education, and work. Promising physical activity intervention strategies are also discussed.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in KIN 310 or KIN 312; and a grade of C or better in KIN 345.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

KIN 603 - Cardiovascular Physiology

Credits: 3

Study of the structure and function of the cardiovascular system as it pertains to health and disease. Topics include the control of blood pressure, vascular volume, and blood flow during orthostasis, aging and disease.

Repeat for Credit
N

Requisites
Prerequisite: A grade of C or higher in both KIN 310 and KIN 335.

Typically Offered
Spring

KIN 605 - Topics in the Biological Basis of Kinesiology

Credits: 1-3

Study of a selected topic in the biological basis of kinesiology involving either an in-depth study or application of theory presented in a related course area.

Repeat for Credit
Y

Requisites
Prerequisite: A grade of C or higher in KIN 310 and KIN 335.

Typically Offered
On sufficient demand

KIN 606 - Topics in the Behavioral Basis of Kinesiology

Credits: 1-3

Study of a selected topic in the behavioral basis of kinesiology involving either an in-depth study or application of theory presented in a related course area.

Repeat for Credit
Y

Requisites
Prerequisite: A grade of C or higher in KIN 310 and KIN 345.

Typically Offered
On sufficient demand

KIN 607 - Muscle Physiology

Credits: 3

Subcellular, cellular, and tissue structure of skeletal muscle and the relationship of these structural characteristics to the functioning of the muscle. Examines energy pathways available to the muscle to support the various functions, and mechanisms underlying changes in exercise tolerance that accompany exercise training and detraining, aging, and diseases that affect skeletal muscle.

Repeat for Credit
N

Requisites
Prerequisite: A grade of C or higher in both KIN 310 and KIN 335.

Typically Offered
Fall

KIN 609 - Environmental Physiology

Credits: 3

Study of the physiological adaptations to acute and chronic challenges imposed by the environment. Topics will focus on how different physiological systems respond to different environmental stressors (heat, cold, deep sea diving, high altitude).

Repeat for Credit
N

Requisites
Prerequisite: C or better in both KIN 310 and KIN 335.

Typically Offered
Spring

KIN 610 - Program Planning and Evaluation

Credits: 3

Theories and models and the stages and activities of planning, implementing, and evaluating health promotion programs.

Repeat for Credit
N

Requisites
Prerequisite: grade of C or better in KIN 310 or KIN 312; and a grade of C or better in KIN 345.

Typically Offered
Spring

KIN 611 - Autonomic Neurophysiology

Credits: 3

Study of the structure and function of the autonomic nervous system primarily as it pertains to physical stress. Particular emphasis is placed on the mechanisms evoking changes in the autonomic nervous system during physical stress including feed-forward and feedback autonomic control signals. The effects of disease and exercise training on those neural control signals are discussed

Repeat for Credit
N

Requisites
Prerequisite: C or better in both KIN 310 and KIN 335

Typically Offered
Fall, Summer

KIN 612 - Policy, Built Environment and Physical Activity

Credits: 3

Examination of the characteristics of active living policies and neighborhood/community design that contribute to improved health.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in KIN 310 or KIN 312; and a grade of C or better in KIN 345.

Typically Offered
Fall, Summer

KIN 614 - Physical Activity Behavior Settings: Youth Sport to Senior Centers

Credits: 3

The course is a study of key physical activity behavior settings across life-span development. Topics include observation of social and physical environmental variables, surveillance of physical activity in behavior settings,

motivational theory and responses, setting interventions and developmental outcomes, and intervention evaluation methods.

Repeat for Credit
N

Requisites
Prerequisite: KIN 310 and KIN 345 with grades of C or higher.

Typically Offered
Spring

K-State 8
Social Sciences

KIN 615 - Cardiorespiratory/Comparative Physiology in Health and Disease

Credits: 3

This course seeks to fulfill the following objectives: (1) To provide the student with an awareness and mechanistic understanding of the effects of physical activity on humans and animals and the concept of homeostasis. (2) Foster an understanding of the integrative nature of kinesiology/physiology by considering the relationships among different systems and their response to stress in humans and animal species in health and disease. Focus is brought to bear in particular on the pulmonary, cardiovascular and muscle systems. Chronic and acute adaptations to special environments and physical stress are considered and the students are asked to consider how the different systems are controlled in health and disease. This course is recommended for pre-med students, biology and physiology majors, aspiring scientists in physiology and/or medicine and those interested in a career in health and human services.

Repeat for Credit
N

Requisites
Prerequisite: C or better in both KIN 310 and KIN 335

Typically Offered
Fall, Spring, Summer

KIN 616 - Obesity and Physical Activity: Behavioral, Environment, and Policy Influences

Credits: 3

Examines the contributing factors to obesity, especially through the lens of physical activity/inactivity. Attention is paid to the environment and policy influences on behaviors that contribute to weight gain.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in KIN 310 or KIN 312 and a Grade of C or better in KIN 345.

Typically Offered
Fall, Spring

KIN 617 - Signaling Pathways in Physiology

Credits: 3

Current concepts of biological signaling transduction and its role in controlling genes expression and protein synthesis involved in exercise adaptation, including resistance and endurance exercise, and disease states, including cardiovascular disease and cancer. This course seeks to fulfill the following
objectives: (1) To train students to understand the molecular and cellular signaling mechanisms associated with changes in skeletal and cardiac muscle mass, cardiac function, and endothelial function change in response to exercise and disease. (2) Foster an understanding of the correlation of
'macro-level' concepts like muscle hypertrophy to 'micro-level' concepts such as mTOR signaling with the goal of understanding the role cell signaling plays in mediating chronic adaptation. This course is recommended for pre-med students, pre-physical therapy students, biology and physiology majors, 80 and those interested in a career in health and human services. This course will cover concepts that are of emphasis of the MCAT exam.

Repeat for Credit
N

Requisites
Prerequisite: C or better in both KIN 310 and KIN 335; or Instructor Permission

Typically Offered
Fall, Spring

KIN 618 - Seminar Public Health Practice

Credits: 1

Pre-practicum course of field-based observations and experiences to connect academic concepts to practice in public health culminating in a portfolio to showcase accomplishments to prospective employers and peers.

Repeat for Credit
N

Requisites
Prerequisite: A grade of C or higher in KIN 230.

Typically Offered
Fall, Spring

KIN 619 - Public Health Practicum

Credits: 3

Course provides students with an opportunity to synthesize, integrate, and apply practical skills, knowledge, and training learned in courses, to gain professional experience in a public health work environment, and to work on public health practice projects that are of particular interest.

Repeat for Credit
N

Requisites
Prerequisite: KIN 230, KIN 312, and KIN 618 with a grade of C or higher; and permission of public health-coordinator.

Typically Offered
Fall, Spring

KIN 622 - Capstone Project in Public Health

Credits: 2

Focuses on integrating public health knowledge, skills, and practice acquired during coursework and the practicum experience, and culminating in a paper and presentation demonstrating critical thinking on public health topics and further understanding in an area of public health practice. This course is typically completed in the last semester of the undergraduate public health program.

Repeat for Credit
N

Requisites
Prerequisite: A grade of C or higher in KIN 230; KIN 618, and KIN 619.

Typically Offered
Fall, Spring, Summer

KIN 625 - Exercise Testing and Prescription

Credits: 3

Benefits and risks of exercise testing and prescription with healthy populations, individuals at risk, and patients with cardiovascular and metabolic diseases. Includes experiences with exercise test technology and methods of exercise prescription.

Note
Two hours recitation and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: C or better in both KIN 310 and KIN 335, CPR, and First Aid.

Typically Offered
Fall, Spring

KIN 635 - Nutrition and Exercise

Credits: 3

The interrelationships between diet, nutrition, and exercise. Topics covered include physical fitness, weight control, nutrient metabolism during exercise, and athletic performance.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 132 or FNDH 400 and a grade of C or higher in KIN 310 and KIN 335

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

KIN 650 - Development of Motor Control

Credits: 3

A multi-level analysis of the neurophysiological activation of muscle, reflexes, sensory integration during movement, and theories of voluntary movement.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: C or better in both KIN 310 and either BIOL 340, KIN 360 or 8 hours of transfer Anatomy and Physiology.

Typically Offered
On sufficient demand

K-State 8
Natural and Physical Sciences

KIN 655 - Individual Physical Activity Promotion

Credits: 3

An in-depth study of individual-level influences on physical activity and strategies to promote physical activity among individuals.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in KIN 310 or KIN 312; and a grade of C or better in KIN 345.

Typically Offered
Fall, Spring

KIN 657 - Integrative Human Pathophysiology

Credits: 3

This course is designed to introduce the student to the mechanistic pathways of prominent chronic diseases (e.g., cardiovascular, respiratory, renal, cancer) and the mechanistic basis for current recommended treatments. This course will focus on the vertical integration of cardiovascular, renal, respiratory, and neural physiological pathways as they relate to pathogenesis, diagnosis, and treatment of these chronic diseases. A large emphasis will be placed on the cellular and molecular response, how they manifest in histological analysis and subsequent organ system dysfunction with the role of exercise therapy (example: cardiac/respiratory therapy) and pharmacology in mitigating these physiological changes.

Repeat for Credit
N

Requisites
Prerequisite: A grade of C or higher in both KIN 310 and KIN 335.

Typically Offered
Fall, Spring

K-State 8
Natural and Physical Sciences

KIN 700 - Interpersonal Aspects of Physical Activity

Credits: 3

Examination of theory and research related to interpersonal aspects of physical activity. Topics include: social networks, social support, social influence, cohesion, and intervention strategies that target interpersonal factors to increase and maintain physical activity participation.

Note
Intended for graduate students only

Repeat for Credit
N

Requisites
Prerequisite: Graduate student status OR instructor permission

Typically Offered
Spring

KIN 701 - Cardiorespiratory Physiology

Credits: 3

An examination of the structure and function of the respiratory system and the manner in which oxygen passes

from the atmosphere to its site of utilization in the mitochondria. Exercise, disease, and environmental stresses will form the basis for examining the capacity, plasticity, and limitations to respiratory function.

Note
Intended for graduate students only

Repeat for Credit
N

Requisites
Prerequisite: Graduate student status OR instructor permission OR KIN 335 with a grade of C or better

Typically Offered
Spring

KIN 703 - Cardiovascular Physiology

Credits: 3

Study of the structure and function of the cardiovascular system as it pertains to health and disease. Topics include the control of blood pressure, vascular volume, and blood flow during orthostasis, aging and disease.

Note
Intended for graduate students only

Repeat for Credit
N

Requisites
Prerequisite: Graduate student status OR instructor permission OR KIN 335 with a grade of C or better

Typically Offered
Fall, Spring

KIN 707 - Muscle Physiology

Credits: 3

Subcellular, cellular, and tissue structure of skeletal muscle and the relationship of these structural characteristics to the functioning of the muscle. Examines energy pathways available to the muscle to support the various functions, and mechanisms underlying changes in exercise tolerance that accompany exercise training and detraining, aging, and diseases that affect skeletal muscle.

Note
Intended for graduate students only

Repeat for Credit
N

Requisites
Prerequisite: Graduate student status OR instructor permission OR KIN 335 or equivalent with a grade of C or better

Typically Offered
Fall, Spring, Summer

KIN 709 - Environmental Physiology

Credits: 3

Study of the physiological adaptations to acute and chronic challenges imposed by the environment. Topics will focus on how different physiological systems respond to different environmental stressors (heat, cold, deep sea diving, high altitude).

Note
Intended for graduate students only

Repeat for Credit
N

Requisites
Prerequisite: Graduate student status OR instructor permission OR KIN 335 with a grade of C or better

Typically Offered
Fall, Spring

KIN 710 - Program Planning and Evaluation

Credits: 3

Theories and models and the stages and activities of planning, implementing, and evaluating health promotion programs.

Note
Intended for graduate students only

Repeat for Credit
N

Requisites
Prerequisite: Graduate student status OR instructor permission OR KIN 345 with a grade of C or better

Typically Offered
Spring

KIN 711 - Autonomic Neurophysiology

Credits: 3

Study of the structure and function of the autonomic nervous system primarily as it pertains to physical stress. Particular emphasis is placed on the mechanisms evoking changes in the autonomic nervous system during physical stress including feed-forward and feedback autonomic control signals. The effects of disease and exercise training on those neural control signals are discussed.

Note
Intended for graduate students only

Repeat for Credit
N

Requisites
Prerequisite: Graduate student status OR instructor permission OR KIN 335 with a grade of C or better

Typically Offered
Fall, Summer

KIN 712 - Policy, Built Environment and Physical Activity

Credits: 3

Examination of the characteristics of active living policies and neighborhood/community design that contribute to improved health.

Note
Intended for graduate students only

Repeat for Credit
N

Requisites
Prerequisite: Graduate student status OR instructor permission OR KIN 345 with a grade of C or better

Typically Offered
Fall, Summer

KIN 715 - Cardiorespiratory/Comparative Physiology in Health and Disease

Credits: 3

This course seeks to fulfill the following objectives: (1) To provide the student with an awareness and mechanistic understanding of the effects of physical activity on humans and animals and the concept of homeostasis. (2) Foster an understanding of the integrative nature of kinesiology/physiology by considering the relationships among different systems and their response to stress in humans and animal species in health and disease. Focus is brought to bear in particular on the pulmonary, cardiovascular and muscle systems. Chronic and acute adaptations to special environments and physical stress are considered and the students are asked to consider the the different systems are controlled in health and disease. This course is recommended for pre-med students, biology and physiology majors, aspiring scientists in physiology and/or medicine and those interested in a career in health and human services.

Note
Intended for graduate students only

Repeat for Credit
N

Requisites
Prerequisite: Graduate student status OR instructor permission OR KIN 335 with a grade of C or better

Typically Offered
Fall

KIN 716 - Obesity and Physical Activity: Behavioral, Environment, and Policy Influences

Credits: 3

Examines the contributing factors to obesity, especially through the lens of physical activity/inactivity. Attention is paid to the environment and policy influences on behaviors that contribute to weight gain.

Note
Intended for graduate students only

Repeat for Credit
N

Requisites
Prerequisite: Graduate student status OR instructor permission

Typically Offered
Fall, Summer

KIN 755 - Individual Physical Activity Promotion

Credits: 3

An in-depth study of individual-level influences on physical activity and strategies to promote physical activity among individuals.

Note
Intended for graduate students only

Repeat for Credit
N

Requisites
Prerequisite: Graduate student status OR instructor permission

Typically Offered
Fall, Spring

KIN 780 - Graduate Internship in Kinesiology

Credits: 3-6

Supervised field experience in approved fitness, strength and conditioning, clinical, public health, or healthcare setting 3-8 credit hours, 50 hours required at the internship site per credit.

Note
Consent of School required.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

KIN 793 - Internship/Public Health Physical Activity

Credits: 1-8

Supervised field experience in settings such as public health departments, foundations, government offices, or research programs.

Repeat for Credit
N

Requisites
Prerequisite: KIN 345, KIN 346, KIN 521, KIN 655.

Typically Offered
Fall, Spring, Summer

KIN 796 - Topics in Exercise Physiology

Credits: 3

Selected topics in exercise physiology involving either greater in-depth study, or application of theory presented in a related course.

Repeat for Credit
Y

Requisites
Prerequisite: C or better in both KIN 310 and KIN 335 and consent of instructor.

Typically Offered
On sufficient demand

Cross-listed
AP 796

KIN 797 - Topics in Public Health Physical Activity Behavior

Credits: 3

Selected topics in public health physical activity behavior involving either greater in-depth study, or application of theory presented in a related course.

Repeat for Credit
Y

Requisites
Prerequisite: C or better in both KIN 310 and KIN 345 and consent of instructor.

Typically Offered
On sufficient demand

Cross-listed
AP 797

KIN 800 - Advanced Physiology of Exercise

Credits: 3

An in-depth study of the physiological responses of the human body during exercise, the adaptations that occur with exercise training, and the laboratory techniques to assess these responses and adaptations.

Repeat for Credit
Y

Requisites
Prerequisite: KIN 335.

Typically Offered
Fall

Cross-listed
Anatomy and Physiology See AP 800

KIN 801 - Physical Activity: Physiology to Public Health Impact

Credits: 3

This graduate seminar covers the study of physical activity and its impact on public health across levels of analysis from basic exercise physiology to social ecology.

Repeat for Credit
N

Typically Offered
Fall

KIN 805 - Physical Activity and Human Behavior

Credits: 3

An examination of the theory and research related to the psychological antecedents and outcomes of participation in physical activity and exercise. Topics include models of exercise motivation, social cognitive theory of exercise and social ecological models of physical activity.

Repeat for Credit
Y

Requisites
Prerequisite: KIN 655.

Typically Offered
Fall

KIN 807 - Motor Learning and Control

Credits: 3

Application of learning principles to skill acquisition in sport and human domain; and practical applications.

Repeat for Credit
Y

Requisites
Prerequisite: KIN 320 or 9 hours of graduate credit in psychology (500 level or above).

Typically Offered
Fall

KIN 808 - Social Epidemiology of Physical Activity

Credits: 3

An examination of the social factors that contribute to an understanding of why people participate in physical activity. Topics include the consideration of individual social and demographic factors such as gender, race, socioeconomic status, education, and social support as well as social structural factors such as the role of the social institutions (e.g. family, work and school environments).

Repeat for Credit
Y

Requisites
Prerequisite: KIN 655.

Typically Offered
Fall

KIN 815 - Research Methods in Kinesiology

Credits: 3

A study of techniques of the research process including the identification of a research problem, the design of experimental and non-experimental strategies, and the

presentation of written research.

Repeat for Credit
Y

Typically Offered
Spring

KIN 818 - Social and Behavioral Bases of Public Health

Credits: 3

The role of behavioral, social, psychological, economic, environmental, and social structural factors in both the occurrence of health problems in groups and populations, and in the development of the risk factors that contribute to these problems. Principles of health behavior change and the application of these principles to a variety of health issues as well as an emphasis on how social structural factors impact health are examined to better understand health behavior and health inequities in contemporary society.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate status in public health or kinesiology program.

Typically Offered
Fall

Cross-listed
MPH 818

KIN 822 - Advanced Muscle Physiology

Credits: 3

Course will examine current topics in muscle physiology. Format to include discussion of scientific papers, oral presentations, and debate of controversial topics.

Repeat for Credit
Y

Requisites
Prerequisite: KIN 335 or permission of instructor

Typically Offered
Spring

KIN 824 - Physiology of Oxygen Transport

Credits: 3

This course is designed to promote critical reading of the literature, particularly with respect to the understanding of exercise physiology and cardiorespiratory, vascular and muscle energetics responses. Activities will include presenting papers, debate and discussion regarding all aspects of science and scientific philosophy.

Repeat for Credit
Y

Requisites
Prerequisite: KIN 335 or permission of instructor

Typically Offered
Spring

KIN 825 - Mechanical Analysis of Human Movement

Credits: 3

Mechanical principles and analysis procedures for the study of overt human movement. Applications to movements in exercise, sport, occupational, and daily living activities will be emphasized.

Repeat for Credit
Y

Requisites
Prerequisite: KIN 330.

Typically Offered
Spring

KIN 826 - Advanced Cardiovascular Physiology

Credits: 3

Discussion and critical examination of cardiovascular control mechanisms, with specific emphasis on regulation of blood pressure during severe challenges such as exercise, heat stress, and upright posture.

Repeat for Credit
Y

Requisites
Prerequisite: KIN 335 or permission of instructor

Typically Offered
Fall

KIN 830 - Advanced Public Health Physical Activity

Credits: 3

Exploration of the social and behavioral epidemiology of physical activity in public health: outcomes, influences, and promotion in individuals, settings, and communities.

Repeat for Credit
Y

Typically Offered
Spring

KIN 835 - Group Dynamics and Physical Activity

Credits: 3

Examines the principles of group development and maintenance in physical activity environments. Topics include the nature of groups, group environment, important member attributes, group structure, group cohesion, group processes and tactics of group development.

Repeat for Credit
Y

Requisites
Prerequisite: KIN 655.

Typically Offered
Spring

KIN 840 - Public Health Practice

Credits: 3-6

Supervised field experience in an international, state, local, or district health agency or other appropriate health agency.

Repeat for Credit
N

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

KIN 845 - Exercise Adherence

Credits: 3

Study and discussion of empirical research and theory as it relates to exercise adherence from psychological, behavioral, and public health perspectives. Topics addressed are epidemiological trends, conceptual issues of measurement, research design, statistical analysis, and interventions focusing on settings and populations.

Repeat for Credit
N

Requisites
Prerequisite: KIN 600 or KIN 805.

Typically Offered
Spring

KIN 851 - Topics in the Physiological Basis of Kinesiology

Credits: 1-3

Study of a selected topic in the physiological basis of kinesiology involving either an in-depth study or application of theory presented in a related course area.

Repeat for Credit
Y

Typically Offered
On sufficient demand

KIN 852 - Topics in the Behavioral Basis of Kinesiology

Credits: 1-3

Study of a selected topic in the behavioral basis of kinesiology involving either an in-depth study or application of theory presented in a related course area.

Repeat for Credit
Y

Typically Offered
On sufficient demand

KIN 855 - Exercise Psychology in Special Populations

Credits: 3

A study of the psychological determinants and outcomes of exercise participation in special populations (e.g. arthritic, obese, cardiovascular disease). Emphasis in understanding the motive underlying involvement in exercise and physical activity and the situational and personal determinants associated with failure to initiate and/or adhere to exercise and physical activity programs.

Repeat for Credit
Y

Requisites
Prerequisite: KIN 655.

Typically Offered
Fall

KIN 890 - Graduate Seminar in Kinesiology

Credits: 1

Designed to provide students opportunities to improve oral and written communication skills and to expose them to the breadth of research topics within the Kinesiology department.

Repeat for Credit
Y

Requisites
Prerequisites: Current graduate student status (MS, PhD, MPH). Undergraduate students by instructor permission only.

Typically Offered
Fall, Spring

KIN 896 - Independent Study in Kinesiology

Credits: 1-4

Intensive independent study in a topic or problem involving the integration, application, and synthesis of theory presented in a related course. The course culminates in the preparation of an original paper.

Repeat for Credit
Y

Requisites
Prerequisite: KIN 815 and related graduate subject core courses.

Typically Offered
Fall, Spring, Summer

KIN 897 - Research in Kinesiology

Credits: 1-4

Independent study in one or more of the research processes involved in the scientific method.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 702 or STAT 703, KIN 815, and related graduate subject core course.

Typically Offered
Fall, Spring, Summer

KIN 898 - Master's Report

Credits: 1-4

Master's Report

Repeat for Credit
Y

Typically Offered
Other

KIN 899 - Master's Thesis

Credits: 1-6

Master's Thesis

Repeat for Credit
Y

Typically Offered
Other

KIN 999 - Dissertation Research

Credits: 1-15

Dissertation Research

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

LAR 010 - Travel: Regional 1

Credits: 0

Multi-day regional field trip experience. Students will study existing natural and/or built environments to develop landscape architecture knowledge base and apply findings to other courses.

Repeat for Credit
Y

Requisites
Prerequisite: LAR 220.

Typically Offered
Spring, Summer

LAR 020 - Travel: Regional 2

Credits: 0

Multi-day field trip experience in an urban environment. Students will study notable works of landscape architecture, and visit professional offices to develop landscape architecture knowledge base and apply findings to other courses.

Repeat for Credit
N

Requisites
Prerequisite: LAR 010.
Corequisite: LAR 433.

Typically Offered
Spring

LAR 030 - Travel: Narratives and Placemaking

Credits: 0

Immersive field trip experience that supports the Narrative and Placemaking Studio.

Repeat for Credit
N

Requisites
Prerequisite: LAR 020.
Corequisites: LAR 425, LAR 430, LAR 352.

Typically Offered
Summer

LAR 040 - Travel: Major City 1

Credits: 0

Multi-day field trip experience in a major city. Students will study notable works of landscape architecture, and visit professional offices to develop landscape architecture knowledge base and apply findings to other courses.

Repeat for Credit
N

Requisites
Prerequisite: LAR 030.
Corequisite: LAR 442.

Typically Offered
Fall

LAR 050 - Travel: Major City 2

Credits: 0

Multi-day field trip experience in a major city. Students will study notable works of landscape architecture, and visit professional offices to develop landscape architecture knowledge base and apply findings to other courses.

Repeat for Credit
N

Requisites
Prerequisite: LAR 040.

Typically Offered
Spring

LAR 101 - Introduction to Landscape Architecture

Credits: 3

Exploratory lecture course open to students in all majors providing an overview of landscape architecture which focuses on innovations in natural and built environments. Students will learn about a wide variety of global issues and perspectives, types of planning and design projects, and professional aspects of the discipline.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Global Issues and Perspectives
Aesthetic Interpretation

LAR 211 - Unlocking Creativity

Credits: 3

Do you want to become creative? Good news, you already are! For students in all majors, this course is designed to help you access your creative potential and become more imaginative, innovative, and courageous. Learning outcomes include overcoming blocks, refining your creative process, practicing activities to enhance creativity, and effectively communicating ideas.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Empirical and Quantitative Reasoning

LAR 220 - Drawing Landscapes Studio

Credits: 5

Foundational aspects of 2D analog and digital medium. Students will learn how to view, analyze, represent and design through the lens of landscape architecture.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the LA professional program.
Corequisite: LAR 350.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Ethical Reasoning and Responsibility

LAR 230 - Modeling Landscapes Studio

Credits: 5

Foundational aspects of 3D modeling using both analog and digital medium. Students will learn how to view, analyze, represent and design through creation and fabrication of 3D models.

Repeat for Credit
N

Requisites
Prerequisite: LAR 220.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

LAR 248 - Landscape Architecture Materials and Methods

Credits: 3

To provide the student a basic understanding of materials and methods commonly utilized in the practice of landscape architecture as a basis to pursue subsequent land design and land construction course work.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 113, PHYS 115 or PHYS 213. Prerequisite or co-requisite: LAR 520.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

LAR 298 - Ethics and Environmental Dilemmas

Credits: 3

Introduction to environmental ethics and significant local and global dilemmas. Students will learn about how humans have impacted the environment through time and the implications of those actions, and environmental/social movements and justice.

Repeat for Credit
N

Typically Offered
Spring

K-State Core
5 Social and Behavioral Sciences

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

LAR 310 - Design Graphics and Visual Thinking

Credits: 2

A study of graphic communication techniques for the exploration and presentation of landscape architecture design ideas.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the LA professional program.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

LAR 320 - Site Design Studio II

Credits: 5

Small- to medium-scale site design studies with emphasis placed on design process, response to cultural and natural conditions, detailed articulation of space including definition and use of materials, and design communication.

Repeat for Credit
N

Requisites
Prerequisite: LAR 220. Prerequisite or corequisite: LAR 520.

Typically Offered
Spring

K-State 8
Historical Perspectives

LAR 350 - Plants and Design

Credits: 3

Introduction to plant morphology, forms of classification, and a basic understanding of plant habitat. Students will learn to identify a palette of plants in the field and understand their application for design.

Repeat for Credit
N

Requisites
Corequisite: LAR 220.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Natural and Physical Sciences

LAR 351 - Plant Patterns and Use

Credits: 1

Introduction to the patterns and use of plants in cultural and natural contexts. Students will identify plant palettes and communities in historical and contemporary landscapes.

Repeat for Credit
N

Requisites
Prerequisite: LAR 350.
Corequisite: LAR 433.

Typically Offered
Spring

LAR 352 - Landscape Performance Lab

Credits: 3

Introduction to the scientific process as well as methods for assessing landscape performance. Students will learn how to acquire, organize and analyze information using qualitative and quantitative methods.

Repeat for Credit
N

Requisites
Prerequisite: LAR 298, LAR 420

Typically Offered
Fall

K-State 8
Natural and Physical Sciences
Empirical and Quantitative Reasoning

LAR 353 - Plant Selection

Credits: 1

Selection of plants for specific site requirements. Students learn how to anticipate plant performance and identify plants to achieve design goals in associated courses.

Repeat for Credit
N

Requisites
Prerequisite: LAR 352.

Typically Offered
Fall

LAR 354 - Landscape Restoration

Credits: 3

Development of landscape restoration plans. Students will learn the principles, methods, and plants of ecological restoration at local and regional scales.

Repeat for Credit
N

Typically Offered
Spring

LAR 410 - Planting Design Studio

Credits: 5

Design studies emphasizing functional, aesthetic, and ecological uses of plants. projects emphasize design process and the relationship between plants and the built environment; elements and principles of planting design; plant selection; preparation of planting plans; specification writing; and design implementation.

Repeat for Credit
N

Requisites
Prerequisite: LAR 320. Prerequisite or corequisite: LAR 520, HORT 274.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Natural and Physical Sciences

LAR 420 - Socio-Ecological Systems Studio

Credits: 5

Introduction to key principles of ecology as related to ecological planning and design. Students will learn how to connect theoretical knowledge of socio-ecological systems and processes to address multi-scale problems in urban and rural contexts.

Repeat for Credit

N

Requisites
Prerequisite: LAR 230.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

LAR 425 - Narratives and Placemaking Seminar

Credits: 2

Immersive exploration into fundamentals of landscape narratives, place theory and placemaking. Students will examine and engage in a variety of locations, create expressions of narrative using a variety of representational techniques, and apply knowledge gained in site design.

Repeat for Credit
N

Requisites
Prerequisite: LAR 420.
Corequisite: LAR 030, LAR 352.

Typically Offered
Summer

LAR 430 - Narratives and Placemaking Studio

Credits: 4

Immersive exploration into fundamentals of landscape narratives, place theory and placemaking. Students will examine and engage in a variety of locations, create expressions of narrative using a variety of representational techniques, and apply knowledge gained in site design.

Repeat for Credit
N

Requisites
Prerequisite: LAR 420.
Corequisite: LAR 030, LAR 352, LAR 425.

Typically Offered
Summer

K-State 8
Aesthetic Interpretation
Social Sciences

LAR 433 - Landscape History and Design Studio

Credits: 5

Introduction to the history and theory of landscape architecture materials and design from the Middle Ages to the present with a focus on Europe and North America. Students will gain competency in landscape architecture vocabulary, the ability to recognize notable works and practitioners, and apply historical precedents to site design projects.

Repeat for Credit
N

Requisites
Prerequisite: LAR 230.
Corequisite: LAR 351.

Typically Offered
Fall

K-State 8
Historical Perspectives
Aesthetic Interpretation

LAR 438 - Site Design Implementation

Credits: 5

Introduction to construction materials, methods, and documentation appropriate for design implementation at the site scale. Focus on producing a set of construction documents including grading, stormwater management, plants and materials.

Repeat for Credit
N

Requisites
Prerequisite: LAR 425, LAR 430.
Corequisite: LAR 353.

Typically Offered
Fall

K-State 8

Empirical and Quantitative Reasoning
Natural and Physical Sciences

LAR 439 - Master Plan Design and Implementation

Credits: 5

Design implementation at the master plan and regional scales. Focus on suitability analyses and systems supporting community services such as pedestrian and vehicular transportation, land use, hydrology and other natural systems.

Repeat for Credit
N

Requisites
Prerequisite: LAR 438.
Corequisite: LAR 354.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

LAR 442 - Site Research and Design Studio

Credits: 5

Iterative development of site plans and designs. Students will research and share precedent studies to expand knowledge base, and will apply findings to multiple design projects.

Repeat for Credit
N

Requisites
Prerequisite: LAR 352, LAR 425, LAR 430.
Corequisite: LAR 040.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Empirical and Quantitative Reasoning

LAR 444 - Career and Academic Planning

Credits: 3

Exploration and identification of career paths and development of academic plans for reaching personal and professional goals including specific coursework, internships, study abroad and extracurricular activities.

Repeat for Credit
N

Requisites
Prerequisite: LAR 430.

Typically Offered
Fall

LAR 445 - Career Development Communications

Credits: 1

Development of visual, written and oral communication skills for career development. Students will prepare materials for internship application, job search, or career advancement.

Repeat for Credit
N

Requisites
Prerequisite: LAR 444.

Typically Offered
Spring

Cross-listed
PLAN 444

LAR 500 - Site Planning and Design

Credits: 3

Theory, principles, and elements of site planning and design. Lectures, readings, short problems, and site visits dealing with site analysis, ecological consideration, grading drainage, circulation and parking, lighting, planting design, materials and details, management and maintenance, and cost factors.

Repeat for Credit
N

Requisites

Prerequisite: ARCH 403 or concurrent enrollment with ARCH 403, or admission to RCP professional program.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Empirical and Quantitative Reasoning

LAR 501 - Landscape Architecture Seminar I

Credits: 2

Discussion of current trends in landscape architecture and related fields by students, faculty, and invited speakers.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

LAR 510 - Landscape Architecture Tech Module I

Credits: 1

Introductory theory, methods, and application of technological skills and support of concurrent landscape architecture studios and courses. Emphasis is on data collection and management and mapping and analysis.

Repeat for Credit
N

Requisites
Prerequisite: Admission to LA professional program.

Typically Offered
Fall

LAR 520 - Landscape Architecture Tech Module II

Credits: 1

Introductory theory, methods, and application of technological skills and support of concurrent landscape architecture studios and courses. Emphasis is on CAD and 3-D modeling.

Repeat for Credit
N

Requisites
Prerequisite: LAR 510.

Typically Offered
Spring

LAR 530 - Landscape Architecture Tech Module III

Credits: 2

Intermediate theory, methods, and application of technological skills and support of concurrent landscape architecture studios and courses. Emphasis is on CAD and 3-D modeling and surveying.

Repeat for Credit
N

Requisites
Prerequisite: LAR 520.

Typically Offered
Fall

LAR 540 - Landscape Architecture Tech Module IV

Credits: 1

Intermediate theory, methods, and application of technological skills and support of concurrent landscape architecture studios and courses. Emphasis is on CAD and 3-D modeling and presentation graphics.

Repeat for Credit
N

Requisites
Prerequisite: LAR 530.

Typically Offered
Spring

LAR 550 - Landscape Architecture Tech Module V

Credits: 2

Advanced application of technological skills and support of concurrent landscape architecture studios and courses. Emphasis is on CAD and 3-D modeling, thematic mapping, and geoprocessing.

Repeat for Credit
N

Requisites
Prerequisite: LAR 540.

Typically Offered
Fall

LAR 560 - Landscape Architecture Tech Module VI

Credits: 1

Advanced project specific applications in data collection and management, CAD modeling, thematic mapping and GIS, and presentation graphics.

Repeat for Credit
N

Requisites
Corequisite: LAR 705.

Typically Offered
Spring

LAR 580 - Planning and Design Intro to GIS

Credits: 2

This course will provide students with the essential background in geospatial analysis and information systems for the design and planning fields. Students will learn basics about data models and management, vector and raster analysis and cartography. Students will learn how to use these skills to develop suitability analyses to evaluate the performance of plans and designs or to identify which location would be best for a particular purpose.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

LAR 635 - Golf Course Planning and Design

Credits: 1-4

Fundamentals of golf course planning and design, including: history, management, design, facilities, aesthetics, and technical development.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Natural and Physical Sciences

LAR 645 - Professional Internship Report

Credits: 1

Oral and graphic presentation of work completed in LAR 702 and LAR 703.

Repeat for Credit
N

Requisites
Prerequisite: LAR 702 or LAR 703.

Typically Offered
Fall

LAR 646 - Community Engagement Studio

Credits: 5

Engagement with communities and stakeholders through service learning projects. Focus on engagement methods and visualization, representation and communication to general audiences. Utilizes planning and design techniques and knowledge gained in previous semesters.

Repeat for Credit
N

Requisites
Prerequisite: LAR 442. Corequisite: LAR 050.

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.

LAR 647 - Design Implementation III

Credits: 5

Continuation of LAR 439 to include large scale site design, road alignment, large area grading, soils and excavation methods, storm drainage, and utilities routing.

Repeat for Credit
N

Requisites
Prerequisite: LAR 439.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

LAR 650 - Landscape Architecture Seminar II

Credits: 2

Literature review and discussion of current issues and trends in community planning and design. Readings and discussion in preparation for field trip.

Repeat for Credit
N

Typically Offered
Summer

LAR 655 - Landscape Architecture Professional Internship

Credits: 6-9

Confirmed internship with a professional sponsor subject to departmental approval.

Repeat for Credit
N

Requisites
Corequisite: LAR 703.

Typically Offered
Spring

LAR 700 - Project Programming

Credits: 3

Research and the development of a program directed toward the advancement of a capstone project for LAR 705 Master's Project and Report.

Repeat for Credit
N

Requisites
Prerequisite: LAR 725, LAR 740, LAR 750 or corequisite: LAR 750.

Typically Offered
Fall

LAR 702 - Landscape Architecture Practicum

Credits: 0

Off-campus design studies fulfilled in an approved professional design office or international studies program.

Repeat for Credit
N

Requisites
Prerequisite: LAR 439, LAR 445 and LAR 646

Typically Offered
Spring, Summer

LAR 703 - Landscape Architecture Off-Campus Studio

Credits: 5

Off campus design studies fulfilled in an approved professional design office or in an approved international studies program.

Repeat for Credit
N

Requisites
Prerequisite: LAR 439, LAR 445 and LAR 646.

Typically Offered
Spring

LAR 704 - Environmental Landscape Planning and Design

Credits: 3

Introduction to and understanding of environmental planning, design and management of natural and social landscape systems beyond site scale. The course focuses on theories, techniques and processes for designing sustainable landscapes and urban environments. Students will develop a final project starting with the conceptualization, through inventory, analysis and simulation, in order to develop a final design proposal.

Repeat for Credit
N

Requisites
Prerequisite: LAR 580, or GEOG 508 or equivalent, or instructor permission.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

LAR 705 - Master's Project Studio 1

Credits: 5

In-depth exploration of a specific landscape architecture topic through research and design supervised by a major professor in accordance with Graduate School guidelines.

Repeat for Credit
N

Requisites
Prerequisite: LAR 725, LAR 740, LAR 750.
Corequisite: LAR 897. This course must be successfully taken in tandem with LAR 897, with a concurrent professor; the failure of either requires a retake (in tandem) of both with a concurrent instructor.

Typically Offered
Fall

LAR 710 - Master's Project Studio 2

Credits: 3

In-depth exploration of a specific landscape architecture topic through research and design supervised by a major professor in accordance with Graduate School guidelines.

Repeat for Credit
N

Requisites
Prerequisite: LAR 705 and LAR 897.
Corequisite: LAR 898. This course must be successfully taken in tandem with LAR 898, with a concurrent professor; the failure of either requires a retake (in tandem) of both with a concurrent instructor.

Typically Offered
Spring

LAR 720 - Public Lands and Natural Resources Law

Credits: 3

Legal aspects of land use and natural resource management on the federal public lands. A brief history of the acquisition and disposition of the public domain and a review of legal authority on the public lands are followed by an examination of key legal issues concerning the resources of water, minerals, timber, range, wildlife, recreation and wilderness.

Repeat for Credit
N

Requisites
Prerequisite: Advanced standing.

Typically Offered
Fall, Spring

LAR 725 - Research Methods

Credits: 3

Development of the research design process. Students will learn to employ appropriate methods and strategies to answer research questions, and to effectively and clearly communicate research-based information to peers and the public.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
PLAN 803

LAR 734 - Rivers: Processes & Forms

Credits: 3

This course addresses key aspects of hydrology such as precipitation and movement of water from uplands to channels. This movement, generally referred to as "runoff processes," is responsible for shaping the watershed. It then focuses upon fluvial geomorphology, the science of riverscapes, to examine processes and resultant landforms. This course teaches field observation skills and field survey procedures that allow the classification of natural rivers and streams. Finally, it previews methods of prediction and monitoring of river channel stability parameters.

Repeat for Credit
N

Typically Offered
Fall

LAR 735 - Advanced Golf Course Planning and Design

Credits: 1-4

Advanced methods and strategies of golf course and resort planning and design.

Repeat for Credit
N

Requisites
Prerequisite: LAR 635.

Typically Offered
Fall, Spring, Summer

LAR 740 - Advanced Studio

Credits: 5

In-depth exploration of a specific landscape architecture topic.

Repeat for Credit
N

Requisites
Prerequisite: LAR 354, LAR 439, LAR 444, LAR 646.
Corequisite: LAR 750.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

LAR 741 - Problems in Landscape Architecture

Credits: 1-18

Specific problems and/or reports in the area of landscape architecture.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

LAR 742 - Topics in Italian Landscape Architecture

Credits: 3

Investigation of Italian culture, landscape and communities through analytical readings and/or drawings.

Repeat for Credit
Y

Typically Offered
Spring

LAR 744 - Community Planning and Design

Credits: 4

Study of the relationships between planning and design in the growth and development of cities and towns.

Note
Two hours lecture and six hours studio a week.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 315.

Typically Offered
Fall

LAR 745 - Professional Practice

Credits: 3

Studies of conventional and newly developing methods of professional design practice. Instruction in the relationships of architects, landscape architects, interior architects, and other professionals to users, clients, construction industry, society, government, and one another.

Repeat for Credit
N

Typically Offered
Fall

LAR 746 - Urban Design Studio I

Credits: 4

An interdisciplinary design studio involving large-scale design; projects with extensive time implementation sequence; responses to socioeconomic, cultural, environmental, and technical needs; and implementation strategies. Design methods are applied to selected urban areas of the Midwest.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 315 or equivalent and concurrent enrollment in PLAN 745.

Typically Offered
Fall

LAR 750 - Advanced Seminar

Credits: 3

Studies and discussion of topics related to specialization studio.

Repeat for Credit
Y

Typically Offered
Fall

LAR 751 - Comprehensive Studio 1

Credits: 5

Culminating experience in landscape architecture design studio.

Repeat for Credit
N

Requisites
LA program students are required to obtain a "C" or better in this course.

Typically Offered
Fall, Spring

LAR 752 - Comprehensive Studio 2

Credits: 5

Culminating experience in landscape architecture studio.

Repeat for Credit
N

Requisites
LA program students are required to obtain a "C" or better in this course.

Typically Offered
Fall, Spring

LAR 753 - Professional Practice: Professional Responsibility

Credits: 1

Interdisciplinary course addresses the connections between allied design professions and the larger community. It helps students to understand and appreciate their professional legal and ethical responsibilities.

Repeat for Credit
N

Requisites

Prerequisite: LAR 442.

Typically Offered
Fall, Spring

LAR 754 - Professional Practice: Office Practices

Credits: 1

Interdisciplinary course addresses practice-based issues concerning professional relationships in the design and delivery process, management of projects, communication practices, and fiscal concerns.

Repeat for Credit
N

Requisites
Prerequisite: LAR 442.

Typically Offered
Fall, Spring

LAR 755 - Professional Practice: Discipline-Specific Topics

Credits: 1

Covers discipline-specific concerns, focusing on issues specific to architecture, interior architecture and product design, landscape architecture or regional and community planning.

Repeat for Credit
N

Requisites
Prerequisite: LAR 442.

Typically Offered
Fall, Spring

LAR 756 - Design of Parks and Recreation Areas

Credits: 3

Site planning of national, state, municipal, and private parks, and specialized recreation areas.

Repeat for Credit
N

Typically Offered
Fall

LAR 759 - Landscape Resource Evaluation

Credits: 3

The determination of the impact of physical project design upon the natural and man-made environment. Studies of existing site conditions and projections of the effect of such projects upon the site and vicinity.

Repeat for Credit
N

Requisites
Prerequisite: Senior or graduate standing.

Typically Offered
Spring

LAR 761 - Comprehensive Seminar 1

Credits: 2

Culminating experience in landscape architecture seminar.

Repeat for Credit
N

Requisites
LA program students are required to obtain a "C" or better in this course.

Typically Offered
Fall, Spring

LAR 762 - Comprehensive Seminar 2

Credits: 2

Culminating experience in landscape architecture design seminar.

Repeat for Credit
N

Requisites
LA program students are required to obtain a "C" or better in this course.

Typically Offered
Fall, Spring

LAR 806 - Portfolio Design

Credits: 3

The Portfolio Design course guides students in development of a professional portfolio of work, with the goal of producing a product that can be used for internship application, job search, or career advancement. Students explore visual thinking and visual communication with a culminating goal of producing a final portfolio.

Repeat for Credit
N

Requisites
Prerequisite: Graduate student standing and familiarity with Adobe Creative Suite or Creative Cloud software.

Typically Offered
Fall, Spring, Summer

LAR 811 - Unlocking Creativity

Credits: 3

Do you want to become creative? Good news, you already are! For students in all majors, this course is designed to help you access your creative potential and become more imaginative, innovative, and courageous. Learning outcomes include overcoming blocks, refining your creative process, practicing activities to enhance creativity, and effectively communicating ideas.

Repeat for Credit
N

Typically Offered
Fall, Spring

LAR 860 - Advanced Planting Design

Credits: 1-4

Special studies in advanced planting design.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

LAR 870 - Advanced Landscape Architecture

Credits: 1-4

Special studies and design in advanced landscape architecture.

Repeat for Credit
Y

Requisites
Prerequisite: LAR 702.

Typically Offered
Fall, Spring, Summer

LAR 880 - Advanced Landscape Architecture Construction

Credits: 1-4

Specialized study of large-scale landscape planning involving landscape construction and grading.

Repeat for Credit
Y

Requisites
Prerequisite: LAR 439.

Typically Offered
Fall, Spring, Summer

LAR 897 - Proposal Writing

Credits: 2

Development of a master's thesis proposal.

Repeat for Credit
Y

Requisites
Prerequisite: LAR 725 and LAR 740
LA program students are required to obtain a "C" or better in this course.

Typically Offered
Fall, Spring

LAR 898 - Master's Report

Credits: 2

Comprehensive application of research and design study through individual studies approved by the department faculty.

Repeat for Credit
N

Requisites
Prerequisite: LAR 705 and LAR 897.
Corequisite: LAR 710. This course must be successfully taken in tandem with LAR 710, with a concurrent instructor; the failure of either requires a retake (in tandem) of both with a concurrent instructor.

Typically Offered
Spring

LAR 899 - Research in Landscape Architecture

Credits: 1-18

Investigations in landscape architecture and related areas, of such caliber as to form the basis for a graduate thesis.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing in landscape architecture.

Typically Offered
Fall, Spring, Summer

LATIN 101 - Latin I

Credits: 4

An introductory study of the structure of Latin.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

LATIN 102 - Latin II

Credits: 4

Continuation and completion of the study of the structure of Latin.

Repeat for Credit
N

Requisites
Recommended Prerequisite: LATIN 101 or equivalent.

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

LATIN 301 - Intermediate Latin - Prose

Credits: 3

Continuation of the study of Latin syntax and grammar, based upon reading of Roman prose. Topics may include Caesar, Cicero, or Sallust.

Repeat for Credit
Y

Requisites
Prerequisite: LATIN 102.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

LATIN 302 - Intermediate Latin - Poetry

Credits: 3

The reading of Latin poetry in the original at an intermediate level. Topics may include Virgil, Ovid, and

Lucretius.

Repeat for Credit
Y

Requisites
Prerequisite: LATIN 301.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

LEAD 195 - CAT Community Connections

Credits: 1-3

Interdisciplinary course that explores the connections among two different fields, courses, or disciplines. For first-year students enrolled in a specific CAT (Connections Across Topics) Community linked to the Staley School of Leadership Studies.

Repeat for Credit
N

Typically Offered
Fall, Spring

LEAD 200 - Foundations of Leadership of Society

Credits: 1-3

Expose students to a variety of concepts, theories and skills relevant to contemporary leadership thought. Consider their personal conceptions and philosophy of leadership. Examine leadership within particular contexts such as creating change, ethical leadership, leadership and management, and historical leadership thought and leaders.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

LEAD 212 - Introduction to Leadership Concepts

Credits: 2-3

This course is organized to provide students with a broad overview of leadership theories, an introduction to ethical decision making, identification of personal leadership styles, and current societal issues for leaders.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Human Diversity within the U.S.

LEAD 213 - Applied Leadership Skills

Credits: 3

This course provides opportunities for all interested students to be introduced to leadership skills application, with emphasis on practice in supervised clinical settings.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility

LEAD 225 - Fundamentals of Global Food Systems Leadership

Credits: 3

An interdisciplinary approach to the fundamental roles people, policies, and cultures play in the global food system enterprise as it relates to sustainable food production, processing, distribution, and availability. Students will explore complexities within self, others, and community related to leadership in the context of a rapidly increasing global population.

Note
Course Description

An interdisciplinary approach to the fundamental roles

people, policies, and cultures play in the global food system enterprise as it relates to sustainable food production, processing, distribution, accessibility, and availability. Students will explore complexities within self, others, and community related to leadership in the context of an increasing global population.

Course Objectives

At the conclusion of the course, students will be able to:

Identify the fundamental systems, levels, stakeholders, and complexities of the global food system and explore their codependent nature

Provide examples of successes and limitations of governmental and non-governmental organizations in implementing change in global food systems

Examine the challenges of food abundance, food insecurity, nutrition, obesity, and poverty in global food systems

Distinguish between low-income and high-income countries and domestic and international food systems challenges

Critically reflect on leadership processes, practice, and purpose

Distinguish between the roles of authority and leadership

Recognize the necessity of working across disciplines

Name the possible multiple interpretations that exist around global food challenges

Summarize the cultural views of gender roles within food production and processing systems and the impact these values play in global food systems development efforts

Recognize different narratives about food

Describe the social, political, and economic dimensions of global food systems

Consistently articulate a broad, integrated food systems perspective focused on health, humans, agriculture, environments, communities, and economies

Examine the various global food systems through the lens of nutrition, vulnerable populations, food waste, post-harvest loss, climate change, and sustainable intensification.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
GENAG 225, DAS 225

K-State Core
5 Social and Behavioral Sciences

K-State 8
Global Issues and Perspectives

LEAD 251 - Honors Leadership I

Credits: 3

This is the first of two courses in a year-long curriculum that is designed to explore four tenets of leadership: citizenship, stewardship, humanitarianism, and purposeful passion. Students will begin to clarify and express their core values as they explore questions around effective leadership and followership concepts and strategies.

Repeat for Credit
N

Requisites
Prerequisite: Freshman standing with honors.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

LEAD 252 - Honors Leadership II

Credits: 3

This is the second of two courses in a year-long curriculum that is designed to explore four tenets of leadership: citizenship, stewardship, humanitarianism, and purposeful passion. Students will continue to explore their values and develop leadership and teamwork skills through service, reflection, and designing a purposeful passion project.

Repeat for Credit

N

Requisites
Prerequisite: LEAD 251 Honors Leadership I. Freshman standing with honors.

Must be taken in the semester immediately subsequent to LEAD 251 Honors Leadership I.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

LEAD 310 - Strengths Peer Coach Practicum

Credits: 0-3

This course is designed to help students develop the skill of coaching within the context of strengths-based leadership while serving as a strengths peer coach. Additional frameworks will include research on employee engagement, well-being, and positive psychology. Students will participate in training, peer observations, weekly seminars, reflections, and debriefs around the peer coaching experience. Students will also apply their coaching skills by holding weekly peer coaching sessions.

Repeat for Credit
N

Typically Offered
Fall or Spring

LEAD 312 - Peer Leader Practicum

Credits: 0-3

This course uses experiential learning to prepare students with the personal, relational, planning, and facilitation skills needed to effectively lead a team or organization. Weekly LEAD 212 facilitation, class preparation seminars, and peer feedback will allow for experience, reflection, meaning-making, and experimentation.

Repeat for Credit
Y

Requisites
Prerequisite: LEAD 212 - Introduction to Leadership Concepts.
Corequisite: Junior standing.

Typically Offered
Fall, Spring

LEAD 320 - Theories of Leadership

Credits: 3

This course provides an overview of the major theories of leadership and the empirical and theoretical evidence supporting those theories. Students will demonstrate an understanding of the theories and the empirical evidence supporting them as well as develop their ability to critically assess the theoretical and empirical work surrounding leadership theories and models.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Social Sciences

LEAD 325 - Uncertainty in Global Food Systems Leadership

Credits: 3

Explore technical and adaptive elements of grand challenges across disciplines. This course addresses the impact of cultural identity, life experience, and world views on leadership relationships as it relates to privilege and inclusion in the context of global food systems. Students will consider elements of community-engaged work.

Repeat for Credit
N

Requisites
Prerequisite: GENAG 225 or LEAD 225 or DAS 225.

Typically Offered
Spring

Cross-listed
GENAG 325, DAS 325

K-State 8
Global Issues and Perspectives

LEAD 350 - Culture and Context in Leadership

Credits: 3

Opportunity to integrate the course and leadership experiences in light of contemporary issues in the study of leadership behavior across cultures and contexts. Based on the current research and writing that introduce and discuss the impact of culture and context on the concept of leadership and development of individuals as interculturally competent leaders.

Repeat for Credit
N

Typically Offered
On sufficient demand

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

LEAD 399 - Internships for Career Development

Credits: 1-2

This course helps you apply your academic knowledge, skills and understanding to experiences as a developing leader within the workplace. The course is structured to incorporate your internship experience with self-directed analysis to develop your personal, academic and professional competencies. You will practice and reflect on your leadership strengths.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

LEAD 405 - Leadership in Practice

Credits: 3

This course provides an opportunity to practice leadership and followership in an experiential setting followed by an in-depth classroom discussion.

Repeat for Credit
Y

Requisites
Prerequisite: LEAD 212, LEAD 350, and junior standing.

Typically Offered
Fall, Spring, Summer

LEAD 420 - Theories of Nonprofit Leadership

Credits: 3

This course provides an overview of nonprofit organization leadership by integrating concepts and theories with applied practice. Students will demonstrate an understanding and application of competencies (knowledge and skills) necessary for professional success as a nonprofit organization leader.

Repeat for Credit
N

Typically Offered
Fall, Spring

LEAD 425 - Global Food Systems Leadership in Action

Credits: 3

In this capstone course, students will conduct a community-engaged global food systems leadership research/service project. Emphasis will be placed on data collection, analysis and dissemination to appropriate audiences. Additional emphases will be on ethical dimensions of leadership and individual exploration of careers and roles within global food systems.

Repeat for Credit
N

Requisites
Prerequisite: GENAG 325 or LEAD 325 or DAS 325.

Typically Offered
Fall

Cross-listed
GENAG 425

K-State 8
Global Issues and Perspectives

LEAD 430 - Women and Leadership

Credits: 3

This course addresses issues related to leadership as it intersects with women's studies scholarship, such as: women's styles of leadership, women and competition, sexism in the workplace, gender differences in communication, and feminist models of leadership. This course will explore issues related to women's leadership development in the theoretical contexts of leadership studies and women's studies.

Repeat for Credit
N

Requisites
Prerequisite: LEAD 212 or WOMST 105.

Typically Offered
Fall, Spring, Summer

K-State 8
Historical Perspectives
Human Diversity within the U.S.

LEAD 450 - Capstone in Leadership

Credits: 3

In this capstone course students will integrate and apply learning from the minor. Emphasis will be on the clarification of the students' personal values, their evaluation of codes of ethics for organizations in their proposed professions, and their analysis of current events through the lens of ethical dimensions of leadership.

Repeat for Credit
Y

Requisites
Prerequisite: LEAD 212, LEAD 350, LEAD 405

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

LEAD 489 - Seminar in International Service-Learning

Credits: 0-3

This course is the first phase of the International Service Teams service-learning program. Learning in the course facilitates preparation for the summer service experience. This course is designed around the PARE service-learning model; both the curriculum and class expectations will be reflective of the service-learning process.

Repeat for Credit
N

Requisites
Prerequisite: Students must complete a program application, interview, and be accepted into the International Service Team program prior to enrollment in the course.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives

LEAD 499 - Nonprofit Organization Internship

Credits: 3

This course provides a capstone opportunity for students in the nonprofit leadership focus of the leadership studies minor to document and present their achievement of the foundation and professional development competencies required by American Humanics national certification in nonprofit leadership through coursework, co-curricular and work experiences, and their 300-hour internship experience. Current texts focusing on the leadership of high impact nonprofit organizations will be incorporated into this process.

Repeat for Credit
N

Requisites
Prerequisite: LEAD 350, LEAD 420.

Typically Offered
Other

LEAD 502 - Independent Study in Leadership Studies

Credits: 0-3

Selected topics in leadership studies.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of department chair.

Typically Offered
Fall, Spring, Summer

LEAD 510 - Foundations of Community-Engaged Leadership

Credits: 3

This course integrates leadership theory and practice exploring principles, purposes, and processes of community engagement and democratic practice. Utilizing service-learning methods, students will partner with community to consider and examine foundational forms of civic and public life. Community paradigms will be explored and deconstructed in relation to course themes.

Repeat for Credit
N

Typically Offered
Fall

LEAD 515 - Teaching Leadership

Credits: 0-3

Preparing people for leadership in a diverse and changing world requires new thinking and approaches to leadership learning and development. Learners will explore philosophies, frameworks, and strategies for designing, delivering, and assessing leadership courses and programs in educational (curricular and co-curricular), workplace, and civic contexts. Learners will develop a philosophy of leadership teaching statement and create a contextually and culturally relevant curricular design document (e.g., class syllabus or program outline). We will serve and attract learners who are working in the field of leadership studies and programs, or aspiring leadership educators.

Note
This course will be listed as 715 at the graduate level.

Repeat for Credit
Y

Typically Offered
Fall, Spring

LEAD 520 - Approaches to Community-Engaged Leadership

Credits: 3

Through theory and practice, students consider the ethical dimensions of leadership in relation to community systems, organizations, and institutions. Students will deconstruct concepts of community-engaged leadership including race, class, gender, justice, and power. Through service-learning, students will work with partners to understand community systems, organizations, and institutions.

Repeat for Credit
N

Requisites
Prerequisite: LEAD 510.

Typically Offered
Spring

LEAD 560 - Experiences in Community-Engaged Leadership

Credits: 6

In this capstone experience students design, plan, execute, and evaluate a community-engaged research project. The project will be consistent with the principles of community engagement and the purposes and process of democratic practice. Students will exercise leadership with community partners to build capacity for systemic change.

Repeat for Credit
N

Requisites
Prerequisites: LEAD 510 and LEAD 520.

Typically Offered
Spring

LEAD 700 - Nonprofit Leadership Concepts

Credits: 3

Explores the unique facets of nonprofits and how to

establish vision, mission, and practices that best position organizations to build leadership capacity for community change. Leadership within the nonprofit sector has unique considerations separate from those in governmental or business organizations including democratic governance, championing a cause, volunteer leadership, and mission-driven organizational design.

Repeat for Credit
N

Typically Offered
Fall or Spring

LEAD 701 - Foundations of Leadership

Credits: 3

Study of the key issues in the theory, research, and application of leadership in organizations. This includes defining leadership, understanding situational characteristics that facilitate / hinder effective leadership, understanding effective / dysfunctional leadership, and gaining greater insight into one's own leadership style and functioning.

Repeat for Credit
Y

Typically Offered
Fall, Spring

LEAD 708 - Facilitating Leadership in Complex Adaptive Systems

Credits: 3

This course surveys the theory and practice of facilitating leadership activity in Complex Adaptive Systems through various process models and approaches to practice.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

Cross-listed
N

LEAD 715 - Teaching Leadership

Credits: 0-3

Preparing people for leadership in a diverse and changing world requires new thinking and approaches to leadership learning and development. Learners will explore philosophies and frameworks **of leadership and leadership development, as well as** strategies for designing, delivering, and assessing leadership courses and programs in educational (curricular and co-curricular), workplace, and civic contexts. Learners will develop a leadership teaching philosophy statement and create a contextually and culturally relevant **leadership curriculum** design document (e.g., class syllabus or program outline).

Updated 3.25.24 after feedback from Dr. Collins in EdLea

Note
This course can be taken as LEAD 515 or LEAD 715 based on UG or GRAD status. LEAD 515 has been approved.

Repeat for Credit
Y

Typically Offered
Fall or Spring

LEAD 720 - Leadership Coaching

Credits: 0-3

This course develops practices of coaching, listening, and empathy for leadership and examines current theory and practice around coaching as a leadership practice. Coaching frameworks from the field of leadership will be examined through the lens of contemporary theories and frameworks.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

LEAD 750 - Leading Change

Credits: 3

This course introduces theoretical and practical leadership frameworks for understanding and responding to local and global challenges of sustainable development. Students in the course will learn and apply effective leadership processes and develop individual capacity for leading change.

Note
Impact Report for LEAD 750
There are no results for this report.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

LEAD 755 - Systems Leadership

Credits: 3

This course examines theories and approaches to leadership through a systems lens, a critical approach to leading complex organizations and addressing global challenges. Learners will develop an in-depth understanding of systems dynamics and gain skills necessary to navigate and influence systems effectively. The course will equip learners with capacities to catalyze, enable, and support processes of systems-level change in their own organizations and society.

Repeat for Credit
N

Typically Offered
Fall or Spring

LEAD 799 - Practicum in Leadership for Conflict Transformation

Credits: 3

In this capstone seminar, participants will explore culminating perspectives and reflect on learning related to leadership, conflict transformation, and change. Participants will complete a final portfolio representing a trajectory of learning. They will synthesize key learning from the program, describe practical implications from prior learning, and design future application goals to support the practice of leadership, conflict transformation, and change in their personal lives and professional careers.

Note
Intended for students in Leadership for Conflict Transformation masters program.

Repeat for Credit
N

Requisites
Prerequisite: LEAD 701 (or 801)
Prerequisite: LEAD 750
Prerequisite: LEAD 755

Typically Offered
Fall or Spring

LEAD 814 - Graduate Studies in Leadership Communication

Credits: 3

This course examines the intersections of community-engaged scholarship and leadership through practices of relationship, story, strategy, and action. Students are introduced to resources and opportunities for pursuing public engagement, community-engaged scholarship, and successful program completion.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
AGCOM 814, COMM 814

LEAD 815 - Seminar in Leadership Communication

Credits: 1

This seminar provides doctoral students opportunities for collaboration and mentorship with peers, faculty, and visiting scholars, and exploration of career pathways in public engagement.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

Cross-listed
AGCOM 815, COMM 815

LEAD 818 - Qualitative Approaches to Studying Leadership and Engagement

Credits: 3

This course is designed to provide students a survey of community-engaged and qualitative approaches to studying leadership and engagement process and practice in community and organizations.

Repeat for Credit
N

Typically Offered
Fall or Spring

Cross-listed
NA

LEAD 820 - Contemporary Perspectives on Leadership Theory and Practice

Credits: 3

This course is designed to build students' capacity to engage with leadership theory as critical learners. Students will explore ideas, philosophical assumptions, and practices associated with the term "leadership" as a concept through theories that have developed over time. We will also examine how the practice of leading in contemporary contexts can be understood through theories.

Repeat for Credit
N

Typically Offered
Fall

LEAD 845 - Approaches to Public/Community Engagement

Credits: 3

The course will provide students a survey of key concepts and theoretical frameworks associated with deliberative democracy and public engagement. A specific focus will be given to how forms of community-engaged scholarship intersect course content in both theory and practice.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
AGCOM 845, COMM 845

LEAD 886 - Seminar in Leadership Studies

Credits: 1-3

Seminar in Leadership Studies.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

Cross-listed
AGCOM 886, COMM 886

LEAD 945 - Social Science Research for Public Problem Solving

Credits: 3

The study of how social science research and social sector evaluation can be applied to address public problems, including the identification of public problems and the critique of current evaluation methods, and applying concepts by developing an evaluation including quantitative and qualitative analysis in partnership with social sector partners.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
AGCOM 945, COMM 945

LEAD 999 - Research in Leadership Communication

Credits: 1-15

Doctoral research demonstrates the candidate's ability to conduct significant original research related to leadership and communication, to analyze the information obtained from the research, and to present the results in a dissertation format appropriate to the field.

Repeat for Credit

Y

Typically Offered
Fall, Spring, Summer

Cross-listed
AGCOM 999, COMM 999

MANGT 220 - Principles of Management

Credits: 3

Provides an introduction to the four basic managerial functions of planning, organizing, leading and controlling and their application to today's complex work environment. An emphasis is placed on the roles and responsibilities of managers that help them to successfully meet organizational objectives by effectively leading employees and optimizing processes.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Social Sciences

MANGT 230 - Business Law I

Credits: 3

A study of law as it relates to business, including court procedures and systems, contracts, sales, business crimes, torts, business organizations, and government regulation.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
5 Social and Behavioral Sciences

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

MANGT 260 - Workplace Dynamics and Organizational Culture

Credits: 3

This course explores the complex factors that influence workplace dynamics and organizational culture. Students will examine how managing individual differences can improve conflict resolution, drive cultural change, and improve the effectiveness of teams and organizations. Students will gain practical insights into fostering positive work environments that promote belonging, collaboration, satisfaction, motivation, and productivity.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

MANGT 300 - Introduction to Total Quality Management

Credits: 1

Overview of major topics related to Total Quality Management (TQM), including managerial and engineering aspects.

Note
One hour lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 100, MATH 205, or MATH 220, sophomore standing.

Typically Offered
Fall, Spring, Summer

MANGT 330 - Business Law II

Credits: 3

A study of civil law as it affects commercial transactions, including corporations, partnerships, property, commercial paper, and secured transactions.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 230.

Typically Offered
On sufficient demand

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

MANGT 366 - Information Systems and Business Analytics

Credits: 3

A comprehensive view of organizational information systems required for obtaining and transforming data into business analytics and intelligence. Cases and hands-on exercises emphasize information systems usage in data acquisition, analysis, and presentation leading to effective organizational decision-making.

Note
Demonstrate competence in use of computer spreadsheets.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

MANGT 421 - Introduction to Operations and Supply Chain Management

Credits: 3

To gain knowledge of Operations and Supply Chain Management (OSCM) principles and techniques, such as process management, project management, quality management, continuous improvement, forecasting, supply chain management, inventory management, planning and scheduling, and lean systems. The primary goals are to develop students' analytical skills in solving OSCM-related problems in a variety of business settings and to help students understand how OSCM contributes to a firm's competitive position in a global marketplace.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

MANGT 450 - Non-Profit Management

Credits: 3

This course introduces students to strategic management issues in nonprofit organizations. Nonprofits represent an important sector of the economy that ifluence the lives of many individuals. In this course, students will learn about the trends and issues affecting the sector as the lines between private, public, and nonprofit organizations continue to evolve. Major topics include: strategic planning, board governance, nonprofit financial management, risk management, resource development, public relations, and impact and accountability measures. The emphasis is on nonprofit organizations in the United States.

Repeat for Credit
N

Typically Offered
On sufficient demand

MANGT 490 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research projects.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MANGT 491 - International Management Experience

Credits: 3

This course is designed to provide students with an opportunity to observe international business and management perspectives by participating in a field trip outside the United States. This experiential course may involve a combination of business visits, cultural experiences, internship activities, applied research projects, personal reflection exercises, or other learning activities while abroad.

Repeat for Credit
N

Typically Offered
On sufficient demand

K-State 8
Global Issues and Perspectives

MANGT 495 - Management Internship

Credits: 1-3

Applied management business experience designed to coordinate the interests of students and firms.

Repeat for Credit
Y

Requisites
Prerequisite: MANGT 220 or consent of instructor.

Typically Offered
Fall, Spring, Summer

MANGT 497 - Topics in Management

Credits: 1-3

Discussion and analysis of current issues in management, including topics related to new theory, the practice of management, and management development.

Repeat for Credit
Y

Typically Offered
On sufficient demand

MANGT 498 - Independent Studies in Management

Credits: 1-6

In-depth analysis of special problems in management including study of current literature.

Repeat for Credit
Y

Requisites
Prerequisite: MANGT 220 or consent of department head.

Typically Offered
On sufficient demand

MANGT 515 - Managerial Consulting

Credits: 3

This course provides an overview of the management consulting process. Students will learn how to apply consulting tools and frameworks to engage clients, analyze organizational problems, formulate and present recommendations, and implement change initiatives. The content is relevant to anyone interested in analyzing internal business opportunities, tasked with managing organizational change, or those pursuing traditional consulting careers.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 220 or Junior standing.

Typically Offered
On sufficient demand

K-State 8
Social Sciences

MANGT 520 - Organizational Behavior

Credits: 3

An examination of human behavior in organizations to prepare individuals for their managerial careers. The course provides a framework for students to diagnose and manage issues associated with personality and individual differences, perceptions, motivation, diversity and inclusion, fairness and equity, decision making, group

functioning, conflict management, culture, and leadership in organizations.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 220 or Junior Standing.

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

MANGT 521 - Managerial Decision Analytics

Credits: 3

Managerial decision analytics uses descriptive, predictive, and prescriptive data analytics to improve organizational decision-making processes.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 220, MATH 205, and STAT 250.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

MANGT 522 - Operations Planning and Control

Credits: 3

Development of concepts and understanding of planning and control systems for allocating resources and scheduling activities in business firms. To guide and coordinate the flow of materials, labor inputs, and goods and services through physical productive systems. Topics include: aggregate planning, master production scheduling, production activity planning and control, operations information systems, inventory control, material requirements planning, and total quality control.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 421.

Typically Offered
On sufficient demand

MANGT 523 - Human Resources Analytics

Credits: 3

Explores using data analytics to examine Human Resource Management issues in organizations. A diverse set of research methods and analytic techniques will be used to collect, organize, analyze, and visualize data to examine problems and formulate solutions that can help organization better manage their HR processes.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 366 or consent of department head

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

MANGT 525 - Organizational Management and Data Analytics

Credits: 3

Provides students with new knowledge and capability in the use of a diverse set of research methods and data analytic techniques to collect, organize, analyze, and visualize data to examine organizational management problems and present solutions that can help create a sustainable competitive advantage.

Note
MANGT 366 or consent of department head

Repeat for Credit
N

Requisites
Prerequisite: MANGT 366 or consent of department head

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

MANGT 527 - Sports Management Analytics

Credits: 3

Provides knowledge and capabilities in analytics and artificial intelligence (AI) for the quantitative management of professional sports organizations. Explores topics in measurement and managerial assessment of athletic and team performance, strategic and tactical analyses in professional sports, and leveraging AI and data for optimized decision making in sports management.

Note
MANGT 366 OR consent of department head

Repeat for Credit
N

Requisites
Prerequisite: MANGT 366

Typically Offered
On sufficient demand

MANGT 530 - Labor Relations and Negotiations

Credits: 3

Provides broad coverage of the goals and operations of labor unions as well as the interactions of labor and management. In addition, this course introduces students to the bargaining and negotiation process within organizations. Effective negotiation strategies are taught and individual negotiation skills are enhanced through opportunities to participate in negotiation simulations.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 220 or Junior standing.

Typically Offered
Fall, Spring

K-State 8
Historical Perspectives
Social Sciences

MANGT 531 - Human Resources Management

Credits: 3

This course provides an overview of the human resource systems and processes needed to achieve organizational effectiveness and strategic success. All key functional areas including human resource planning, staffing, performance management, employee development, and compensation are addressed.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 220 or junior standing.

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

MANGT 535 - Employment Law

Credits: 3

A survey course designed to acquaint students with the broad and controlling aspects of prominent laws which affect human resource management. Topics include ADA, ADEA, OSHA, Title VII, etc.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 220 or junior standing.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

MANGT 541 - Management of Quality

Credits: 3

Coverage of quality as a management philosophy through the study of ideas from contemporary quality philosophies on continuous improvement, employee empowerment, statistical process control charting, and other applicable organizational topics.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 421.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

MANGT 550 - Organizational Training and Development

Credits: 3

The process of training and developing the human resources in organizations, which includes organizational diagnosis, needs assessment, program design, program implementation, and the evaluation of program effectiveness. Current trends in the content and process of training and development activities are also examined.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 220 or Junior Standing.

Typically Offered
On sufficient demand

K-State 8
Social Sciences

MANGT 553 - Business Project Management

Credits: 3

Provides an in-depth coverage of project management concepts and methodologies required for service and manufacturing operations. Topics to be covered include, but are not limited to: project selection and evaluation, project organization, management or project team members organization, project scheduling, project budgeting, project monitoring and control and project closure.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 220, MANGT 421.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

MANGT 561 - Transportation and Warehouse Management

Credits: 3

Covers concepts and techniques in transportation and warehouse management that create competitive advantage and enhanced customer service. Develops understanding of the role of transportation and warehousing in the supply chain, various transportation modes and their intermodal connectivity, principles of transportation network design, and analysis of warehouse strategic and operational management.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 421.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

MANGT 566 - Computer Systems for Finance and Investment Management

Credits: 3

An integrated course examining the interrelationship between finance/investment management and information technology taught using a mixture of theory/concepts and hands-on activities. Topics include spreadsheet design and use in finance and investments, decision support systems and artificial intelligence used in risk analysis, financial database design, and information technologies used to

transmit financial and investment information.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 366 and FINAN 450.

Typically Offered
On Sufficient Demand

K-State 8
Empirical and Quantitative Reasoning

MANGT 580 - K-State MIS: Health Info Sys Portfolio I

Credits: 9

This course serves a mechanism to indicate students have completed a series of Health Information Systems courses at Johnson County Community College in the process of completing their Associate's Degree. It is used solely for transfer credit tracking and fulfills the thematic sequence requirement in the College of Business. Students cannot enroll in this class nor can this course be transferred into programs other than Management Information Systems in the College of Business Administration.

Repeat for Credit
N

Requisites
Prerequisite: Associates Degree in Health Information Systems from JCCC.

Typically Offered
Fall, Spring, Summer

MANGT 581 - K-State MIS: Health Info Sys Portfolio II

Credits: 15

This course serves a mechanism to indicate students have completed a series of Health Information Systems courses at Johnson County Community College in the process of completing their Associate's Degree. It is used solely for transfer credit tracking and fulfills the unrestricted electives requirement in the College of Business. Students cannot enroll in this class nor can this course be transferred into programs other than Management Information Systems in the College of Business Administration.

Repeat for Credit
N

Requisites
Prerequisite: Associates Degree in Health Information Systems from JCCC.

Typically Offered
Fall, Spring, Summer

MANGT 590 - International Management

Credits: 3

Analysis of the political, legal, economic, and sociocultural environments and how they influence international management decisions such as timing and place of foreign market entry, mode of entry, and formulations and implementation of international strategies. Students develop the knowledge and skills necessary for managing international operations including cross-cultural communication, negotiations, ethical decision making, leadership, staffing, and workforce motivation..

Repeat for Credit
N

Requisites
Prerequisite: MANGT 220 or Junior standing.

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives
Social Sciences

MANGT 595 - Strategic Management

Credits: 3

Undergraduate capstone course that requires integration of knowledge gained in prior functional coursework and application of strategic management concepts to develop value-creating solutions to business challenges. Students develop the knowledge and skills necessary to identify and analyze strategic issues, formulate strategic plans, and implement strategic initiatives within organizations.

Note
Open only to students with 75 credit hours or non-business graduate students.

Repeat for Credit
N

Requisites
Prerequisite: FINAN 450 and MANGT 220 and MKTG 250 and 75 credit hours and admitted in a College of Business Administration major (ACCTG, ENTRP, FINAN, GENBA, MANGT, MIS, MKTG, PSS).

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

MANGT 596 - Business Ethics and Corporate Citizenship

Credits: 3

Delivers a managerial perspective on how corporations can fulfill their economic, legal, ethical, and philanthropic responsibilities to a broad array of business stakeholders.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 220, MKTG 250, and senior-level students admitted in a College of Business Administration degree track (major).

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

MANGT 610 - Managing for Sustainability: Strategy, Investing, and Impact

Credits: 3

Examines how organizations create long-term value for stakeholders and society through environmental, social, and governance (ESG) strategy, investment, and impact. Students explore the concept of business sustainability from an applied perspective, to understand better how economic, human, and natural environmental systems are interlinked. Specific topics include the formulation and implementation of ESG strategies within organizations, managing relationships with stakeholders, and the measurement and disclosure of ESG impact.

Repeat for Credit
N

Typically Offered
On sufficient demand

MANGT 623 - Compensation and Performance Management

Credits: 3

An in-depth analysis of compensation system design and performance management strategies needed to attract, retain, develop and motivate the human capital required for organizational effectiveness and strategic success.

Repeat for Credit
N

Requisites
Corequisite: MANGT 531.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

MANGT 630 - Sports Management

Credits: 3

An exploration into management issues associated with professional and amateur sports. Major topics include strategic planning, operational planning, human resource management, team management, leadership, communication, and diversity all in the context of sports.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 220 or MKTG 250 or Junior standing.

Typically Offered
Fall, Spring

MANGT 633 - Advanced Human Resource Management

Credits: 3

An in-depth analysis of selected topics in human resource management including study of current research and literature.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 531.

Typically Offered
On sufficient demand

MANGT 643 - Organizational Staffing

Credits: 3

Focuses on recruitment, selection, and retention issues, including an in-depth consideration of legal and practical issues involved in the acquisition and retention of human resources. Detailed coverage of job analysis, criterion development, recruitment strategies, and techniques and procedures for ensuring valid and effective selection of employees.

Repeat for Credit
N

Requisites
Corequisite: MANGT 531.

Typically Offered
Fall, Spring

K-State 8
Social Sciences

MANGT 652 - Constraint Management and Continuous Improvement

Credits: 3

The intent of this course is to provide an overview of the application of Theory of Constraints (TOC). TOC suggests that every process or system has at least one constraint that prevents the operation from being more efficient. TOC offers methodologies that are specifically developed to identify and manage constraints to enable the operation to achieve its goals. Students will be taught the skills required for the identification and management of constraints within an operation system.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 220, MANGT 421, MANGT 521.

Typically Offered
On sufficient demand

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

MANGT 660 - Supply Chain Planning and Control

Credits: 3

Provides a framework of how the demand side of the supply chain should interface with supply side in the context of global manufacturing and service. Topics include: layout/process design and control, capacity planning, master scheduling, materials requirement, coordination, and revenue management.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 421 or graduate school status

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

MANGT 662 - Procurement, Logistics and Supply Chain Design

Credits: 3

Addresses the interrelationship between operations and other functions required to deliver value to the end customer of a supply chain. Topics include: strategic procurement and purchasing operations and process, sourcing decisions, location strategies, distribution network design, global supply chain network design, and supply chain risk management.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 421 or graduate school status.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Global Issues and Perspectives

MANGT 663 - Supply Chain Analytics

Credits: 3

The objective of this course is to introduce models and tools to effectively manage a supply chain that purchase, produce, and distribute products. Topics include: forecasting, production and logistics, and inventory management. We illustrate the effectiveness of these models and tools using real-life cases and examples drawn from diverse industries.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 421 or graduate school status

Typically Offered
On sufficient demand

K-State 8
Empirical and Quantitative Reasoning

MANGT 710 - Operations and Supply Chain Management

Credits: 3

The study of the role of operations systems in the provision of value for the customer. Operations systems design, capacity determination, resource requirements planning and control, theory of constraints, supply chain management, quality management and control and project management are discussed and analyzed.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 351 or STAT 702.

Typically Offered
Spring

MANGT 720 - Managing Organizational Behavior

Credits: 3

An in-depth analysis of the development of the behavioral bases of individual and group behavior in business, governmental, educational, and other organizations with emphasis on current research literature and applications.

Repeat for Credit
Y

Requisites
Prerequisite: Open only to students in graduate business degree or certificate programs or with permission of the instructor.

Typically Offered
Fall, Summer

MANGT 725 - Organizational Management and Data Analytics

Credits: 3

This course exposes students to a diverse set of research methods and data analytic techniques used to address organizational management problems. Students engage in experiential learning to develop their capabilities in collecting, organizing, analyzing, and visualizing data, making inferences from data analytic processes, and communicating solutions to organizational stakeholders through storytelling.

Repeat for Credit
N

Typically Offered
Spring

MANGT 815 - Advanced Managerial Consulting

Credits: 3

This course provides an overview of the management consulting process. Students will learn how to apply consulting tools and frameworks to engage clients, analyze organizational problems, formulate and present recommendations, and implement change initiatives. The content is relevant to anyone interested in analyzing internal business opportunities, tasked with managing organizational change, or those pursuing traditional consulting careers.

Repeat for Credit
N

Typically Offered
Spring

MANGT 825 - Advanced Business Law

Credits: 3

A study of civil law as it affects commercial transactions, including corporations, partnerships, property, commercial paper, and secured transactions.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate student standing.

Typically Offered
Spring

MANGT 840 - Advanced Entrepreneurship

Credits: 3

An in-depth examination of the nature of entrepreneurship including success factors, the requirements of successful new venture planning and implementation, and researching the current literature in the field. The study of new product identification, the assessment of commercial potential, and the elements of an effective business plan will be examined in detail, culminating in the preparation of a comprehensive plan for the development and marketing of a new product or service.

Repeat for Credit
Y

Requisites
Prerequisite: FINAN 715, MANGT 720, and MKTG 890.

Typically Offered
On sufficient demand

MANGT 845 - Technology Entrepreneurship and Strategy

Credits: 3

In this course the student will learn how to recognize and screen technology opportunities in diverse areas such as telecommunications to biotechnology; learn the intricacies of intellectual property creation, protection and acquisition; effectively implement the commercialization process. A major objective of the course is to help students realize that technology may be the most under-utilized asset in either the private or public sector yet, in the form of licenses or rights to use, can be sold repeated with a relatively low cost of goods sold, resulting in a continual stream of income.

Repeat for Credit
Y

Typically Offered
On sufficient demand

MANGT 853 - Business Project Management

Credits: 3

Provides an in-depth coverage of project management concepts and methodolgogies required for service and manufacturing operations. Topics to be covered include, but are not limited to: project selection and evaluation, project dynamics, motivation and evaluation of project team members, project scheduling, project budgeting, and project closure.

Note
This course is restricted to students in graduate business degree. Students from other programs must receive permission from the College of Business Graduate Program Coordinator.

Repeat for Credit
N

Requisites
Prerequisites: Open only to students in graduate business degree.

Typically Offered
Fall, Spring

MANGT 860 - Managing the Triple Bottom Line Business

Credits: 3

Examines how organizations can deliver sustainable social, environmental, and economic benefits to a plurality of stakeholders. Topics include best practices for business ethics, corporate social responsibility, and triple bottom line management.

Repeat for Credit
Y

Requisites
Prerequisite: ACCTG 710, FINAN 715, MKTG 705, MANGT 710, MANGT 720, MIS 830, ECON 815 and STAT 703.

Typically Offered
Fall, Spring

MANGT 867 - Enterprise Information Systems Management

Credits: 3

Concepts and information resource management techniques are integrated into a conceptual framework of enterprise information systems. The impact of current issues and new technologies on business is emphasized through discussion and application.

Repeat for Credit
Y

Typically Offered
Spring

MANGT 870 - Managing Animal Health Organizations

Credits: 3

Relevant theoretical concepts will be drawn from strategic management, management of change, human resource management, and the management of innovation to provide and intellectual grounding for understanding industry dynamics and the analysis of contemporary managerial challenges and issues for organizations in the animal health industry. Special emphasis will be given to proposing strategic solutions to solve major problems that companies face in the animal health corridor.

Repeat for Credit
N

Typically Offered
Other

MANGT 880 - Strategic Management

Credits: 3

Graduate capstone course that requires integration of knowledge gained in prior functional coursework and application of strategic management concepts to develop value-creating solutions to business challenges. Students develop the knowledge and skills necessary to identify and analyze strategic issues, formulate strategic plans, and implement strategic initiatives within organizations.

Repeat for Credit
Y

Requisites
Prerequisite: ACCTG 710, FINAN 715, MKTG 705, MANGT 710, MANGT 720, MIS 830, ECON 815, and STAT 703.

Typically Offered
Fall

MANGT 890 - International Management

Credits: 3

Analysis of the political, legal, economic, and sociocultural environments and how they influence international management decisions such as timing and place of foreign market entry, mode of entry, and formulation and implementation of international strategies. Students develop the knowledge and skills necessary to more effectively manage the international operations of organizations.

Repeat for Credit
N

Typically Offered
Fall, Spring

MANGT 892 - International Operations Management

Credits: 3

Explores the global market context and the environment for multinational operations. Examines important tools, concepts, theories, models, and structures as defined and applied to manufacturing and service operations in other countries. Emphasis is placed on Japanese technology and practices. It draws upon those aspects of manufacturing and service operations that can help U.S. firms become increasingly competitive worldwide.

Repeat for Credit
Y

Requisites
Prerequisite: MANGT 590 and MANGT 710.

Typically Offered
On sufficient demand

MANGT 893 - Management Science

Credits: 3

The application of management science methods to business problems to provide a basis for rational decision making. Includes mathematical programming, inventory theory, simulation, model building, and heuristics.

Repeat for Credit
Y

Requisites
Corequisite: MATH 205, STAT 351 or STAT 702

Typically Offered
On sufficient demand

MANGT 897 - Topics in Management Contemporary Issues in Management

Credits: 3

Discussion and analysis of contemporary issues in management, including applications, development and study of relevant literature and research findings.

Repeat for Credit
Y

Requisites
Prerequisite: MANGT 720, MANGT 710 and MANGT 830.

Typically Offered
Spring

MANGT 898 - Special Problems in Management

Credits: 1-18

As scheduled. An in-depth study of specified topics.

Note
Consent of the instructor

Repeat for Credit
Y

Typically Offered
Other

MATH 010 - Intermediate Algebra

Credits: 3

Preparatory course for MATH 100. Includes arithmetic (signed numbers, polynomials, algebraic fractions, exponents, and roots), solutions to equations (linear, quadratic, polynomial, root, and fractional), graphs (linear and quadratic), and geometry (area, perimeter, and the Pythagorean Theorem).

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

MATH 011 - Intermediate Algebra Review

Credits: 2

Supplemental algebra lab that is required to be taken in conjunction with MATH 010.

Note
Two hours recitation a week. The student will receive 2 hours credit which will not count toward graduation.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

MATH 020 - College Algebra Review

Credits: 2

Supplemental algebra lab to be taken in conjunction with MATH 100 for students who need additional instruction in algebra.

Note
Two hours recitation a week. Students are placed in this course on the basis of their score on the placement exam. The student will receive 2 hours credit which will not count toward graduation.

Repeat for Credit
N

Typically Offered
Fall, Spring

MATH 100 - College Algebra

Credits: 3

Fundamental concepts of algebra; algebraic equations and inequalities; functions and graphs; zeros of polynomial functions; exponential and logarithmic functions; systems of equations and inequalities.

Repeat for Credit
N

Requisites
Prerequisite: A test score equal to or greater than, Math ACT 22 OR Math SAT 540 OR ALEKS PPL 46 OR Accuplacer QAS 326; OR (HS GPA 3.25 AND grade of B- or better in Algebra 2 or Integrated Math 3).

Typically Offered
Fall, Spring, Summer

K-State Core
3 Math and Statistics

K-State 8
Empirical and Quantitative Reasoning

MATH 101 - College Algebra Support

Credits: 2

Note: College Algebra Support credits cannot count towards the 120 credits of the degree program. This course was designed through the Kansas Board of Regents Math Pathways initiative. Students who do not meet one of the multiple placement measures must enroll concurrently in MATH 101 and MATH 100.

College Algebra Support is the corequisite support course for MATH 100 - College Algebra. The support course provides additional review of the background knowledge and foundational skills which promote student success in MATH 100. The content of MATH 101 is directly aligned with the course objectives of MATH 100.

Note
MATH 101 is the KBOR math pathways corequisite course for the college algebra course. Students that do not meet any of the KBOR multiple placement measures must also enroll in MATH 101 as the corequisite course to MATH 100.

Repeat for Credit
N

Requisites
Corequisite: MATH 100

Typically Offered
Fall, Spring, Summer

MATH 150 - Plane Trigonometry

Credits: 3

Trigonometric and inverse trigonometric functions; trigonometric identities and equations; applications involving right triangles and applications illustrating the laws of sines and cosines.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 100; OR a test score equal to or greater than, MATH ACT 24 OR MATH SAT 590 OR ALEKS PPL 61 OR Accuplacer QAS 270, OR (HS GPA 3.5 AND grade of A- or better in Algebra 2).

Typically Offered
Fall, Spring, Summer

K-State Core
3 Math and Statistics

K-State 8
Empirical and Quantitative Reasoning

MATH 151 - Applied Plane Trigonometry

Credits: 2-3

Trigonometry and inverse trigonometric functions, trigonometric identities and equations; applications involving right triangles and applications illustrating the laws of sines and cosines. Emphasis is placed on applications to engineering technology, tool and machine design.

Note
Two hours recitation a week.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
3 Math and Statistics

K-State 8
Empirical and Quantitative Reasoning

MATH 160 - Introduction to Contemporary Mathematics

Credits: 3

Mathematics as used in the contemporary world. Combinatorics and probability; descriptions of data; graph theory; and various additional topics selected by the individual instructors.

Repeat for Credit
N

Requisites
Prerequisite: A test score equal to or greater than, Math ACT 19 OR Math SAT 510 OR ALEKS PPL 30 OR Accuplacer QAS 255, OR (HS GPA 3.00 AND grade of C- or better in Algebra 2 or Integrated Math 3) OR MATH 100.

Typically Offered
Fall, Spring

K-State Core
3 Math and Statistics

K-State 8
Empirical and Quantitative Reasoning

MATH 161 - Contemporary Mathematics Support

Credits: 1

Note: Contemporary Mathematics Support credits cannot count towards the 120 credits of the degree program. This course was designed through the Kansas Board of Regents Math Pathways initiative. Students who do not meet one of the multiple placement measures must enroll concurrently in MATH 161 and MATH 160.

Contemporary Mathematics Support is the corequisite support course for MATH 160 - Contemporary Mathematics. The support course provides additional review of the background knowledge and foundational skills which promote student success in MATH 160. The content of MATH 161 is directly aligned with the course objectives of MATH 160.

Note
MATH 161 is the KBOR math pathways corequisite course for the contemporary math course. Students that do not meet any of the KBOR multiple placement measures must also enroll in MATH 161 as the corequisite course to MATH 160.

Repeat for Credit
N

Requisites
Corequisite: MATH 160

Typically Offered
Fall or Spring

MATH 199 - Undergraduate Mathematics Seminar

Credits: 1-5

Topics of special interest to undergraduates in mathematics, including orientation to the mathematics curriculum, possible careers in mathematics, and cultural and professional aspects of mathematics.

Repeat for Credit
Y

Typically Offered
Fall

MATH 205 - General Calculus

Credits: 3

Introduction to calculus concepts that are particularly useful to the study of economics and business administration with special emphasis on working problems.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 100 OR MATH 120 OR MATH 150; OR a test score equal to or greater than MATH ACT 24 OR MATH SAT 590 OR ALEKS PPL 61 OR Accuplacer QAS 270, OR (HS 3.5 AND grade of A- or better in Algebra 2).

Typically Offered
Fall, Spring

K-State Core
3 Math and Statistics

K-State 8
Empirical and Quantitative Reasoning

MATH 210 - Technical Calculus I

Credits: 3

A condensed course in analytic geometry and differential calculus with an emphasis on applications.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
3 Math and Statistics

MATH 211 - Technical Calculus II

Credits: 3

A continuation of MATH 210 to include integral calculus with an emphasis on application.

Repeat for Credit
N

Typically Offered
Spring

K-State Core
3 Math and Statistics

MATH 215 - Calculus I

Credits: 5

Course content includes a brief review of pre-calculus materials of algebra and trigonometry, functions, limits, differentiation, applications of differentiation, integration, and applications of the definite integral. Theory is presented in a style tailored for first-semester students of mathematics.

Note
Five hours recitation a week.

Repeat for Credit
N

Typically Offered
Summer

K-State 8
Empirical and Quantitative Reasoning

MATH 216 - Calculus II

Credits: 5

An extension of MATH 215, Calculus I, to include integration, differentiation, and applications of transcendent functions.

Note
Five hours recitation a week.

Repeat for Credit
N

Typically Offered
Summer

K-State 8
Empirical and Quantitative Reasoning

MATH 220 - Analytic Geometry and Calculus I

Credits: 4

Analytic geometry, differential and integral calculus of algebraic and trigonometric functions.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 120 OR MATH 150; OR a test score equal to or greater than MATH ACT 28 OR MATH SAT 660 OR ALEKS PPL 76 OR Accuplacer QAS 280, OR HS Precalc grade of A- or better OR HS Calc grade of B- or better.

Typically Offered
Fall, Spring, Summer

K-State Core
3 Math and Statistics

K-State 8
Empirical and Quantitative Reasoning

MATH 221 - Analytic Geometry and Calculus II

Credits: 4

Continuation of MATH 220 to include transcendental functions, techniques of integration, and infinite series.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 220 OR MATH 250 OR Calculus AB AP score of 3 or above.

Typically Offered
Fall, Spring, Summer

K-State Core
3 Math and Statistics

K-State 8
Empirical and Quantitative Reasoning

MATH 222 - Analytic Geometry and Calculus III

Credits: 4

Continuation of MATH 221 to include functions of more than one variable.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 221 OR MATH 251 OR Calculus BC AP score of 3 or above.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

MATH 250 - Mathematical Scholars Calculus 1

Credits: 4

A rigorous introduction to the central ideas and techniques of calculus where students will be exposed to both the computational and conceptual underpinnings of calculus including functions, graphs, limits, continuity, derivatives and integrals. Enrollment is not restricted to students in the Mathematical Scholars Program.

Note
Cannot be taken for credit if credit has been received for MATH 220. Permission of the Mathematical Scholars Director or Enrollment in the Program

Repeat for Credit
N

Typically Offered
Fall

K-State Core
3 Math and Statistics

K-State 8
Ethical Reasoning and Responsibility

MATH 251 - Mathematical Scholars Calculus 2

Credits: 4

A continuation of MATH 250 where students will be

trained in both the computational and conceptual underpinnings of calculus including techniques of integration, transcendental functions, infinite sequences and infinite series.

Note
Cannot be taken for credit if credit has been received for MATH 221.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 250.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

MATH 312 - Finite Applications of Mathematics

Credits: 3

Systems of equations, vector operations, linear algebra, and linear programming. Practice in setting up, solving, and interpreting mathematical models which arise in social sciences and business.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 100 OR MATH 120 OR MATH 150 OR MATH 205 OR MATH 220.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

MATH 313 - Computational Number Theory

Credits: 3

Topics in number theory selected from: divisibility, primes, modular arithmetic and special types of numbers. Emphasis is on computations. Primarily for prospective elementary school teachers of mathematics.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing, MATH 100.

Typically Offered
Spring

MATH 320 - Mathematics for Elementary School Teachers I

Credits: 3

Mathematical problem solving and reasoning, development of whole number concepts and the whole number system, computation and estimation with whole numbers, number patterns and number theory, integers, fractions and rational numbers, decimals and real numbers, geometry and measurement.

Note
For education majors only.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 100.

Typically Offered
Fall, Spring

MATH 330 - Intuitive Geometry

Credits: 3

Geometric figures and patterns, properties of geometric figures, transformation and coordinate geometry, measurement.

Repeat for Credit
N

Requisites
Prerequisite: MATH 320.

Typically Offered
Spring

MATH 340 - Elementary Differential Equations

Credits: 4

Elementary techniques for solving ordinary differential equations and applications to solutions of problems in science and engineering.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 221 OR MATH 251.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

MATH 350 - Mathematical Scholars Calculus 3

Credits: 5

A continuation in the sequence of courses focused on Calculus. Provides the first semester of an integrated approach to linear algebra, multivariable calculus, and ordinary differential equations with specific topics including vector spaces, linear transformations, solutions to matrix equations, dimension, rank, eigenvalues, inner products, Sylvester's Theorem, multi-linear algebra, vector valued functions, vector fields and general ordinary differential equations.

Note
Cannot be taken for credit if credit has been received for MATH 551.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 251 OR Permission of the Mathematical Scholars Director

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

MATH 351 - Mathematical Scholars Calculus 4

Credits: 5

A continuation in the sequence of courses focused on Calculus. Provides the second semester of an integrated approach to linear algebra, multivariable calculus, and ordinary differential equations. Students will apply knowledge from one variable calculus and linear algebra to the higher dimensional setting, but many computations will take place in the low 2 and 3 variable cases. Topics include linear ordinary differential equations, Picard's Theorem, limits and continuity in many variables, partial derivatives, optimization problems, integration of functions of several variables, Fubini's Theorem, integration of differential forms and Generalized Stokes' Theorem.

Note
Cannot be taken for credit if credit has been received for MATH 222 or 340.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 350.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

MATH 395 - Academic Excellence Workshop

Credits: 1-2

This course provides enriched supplementary instruction to selected students enrolled in selected lower-division courses.

Repeat for Credit
Y

Requisites
Prerequisite: Concurrent enrollment in qualifying lower-division mathematics course and written permission of instructor.

Typically Offered
Other

MATH 399 - Honors Seminar in Mathematics

Credits: 1-3

Honors Seminar in Mathematics

Repeat for Credit
Y

Requisites
Prerequisite: Membership in honors program.

Typically Offered
Other

MATH 498 - Honors Project

Credits: 3

Open only to Arts and Sciences students who are active members of the University Honors Program.

Repeat for Credit
Y

Typically Offered
Other

MATH 499 - Undergraduate Topics in Mathematics

Credits: 1-18

Reading courses in advanced undergraduate mathematics.

Repeat for Credit
Y

Requisites
Prerequisite: Background of courses needed for topic undertaken and consent of instructor.

Typically Offered
Fall, Spring, Summer

MATH 500 - Mathematical Theory of Interest

Credits: 3

Extensive introduction to the mathematical theory of interest with applications to the field of actuarial science. Prepares students to take the second professional examination administered by the Society of Actuaries and the Casualty Actuarial Society.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 221 OR MATH 251.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

MATH 501 - Mathematical Foundations of Actuarial Science

Credits: 3

Introduction to calculus-based applications and models with an emphasis on applications to insurance. Prepares students to take the first professional examination administered by the Society of Actuaries and Casualty Actuarial Society.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 222 OR MATH 351 AND corequisite STAT 510 OR STAT 610.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

MATH 506 - Introduction to Number Theory

Credits: 3

Divisibility properties of integers, prime numbers, congruences, multiplicative functions.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 221 OR MATH 251.

Typically Offered
Spring

MATH 510 - Discrete Mathematics

Credits: 3

Combinatorics and graph theory. Topics selected from counting principles, permutations and combinations, the inclusion-exclusion principle, recurrence relations, trees, graph coloring, Eulerian and Hamiltonian circuits, block designs, and Ramsey Theory.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 221 OR MATH 251.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

MATH 511 - Introduction to Algebraic Systems

Credits: 3

Properties of groups, rings, domains and fields. Examples selected from subsystems of the complex numbers, elementary number theory, and solving equations.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 221 OR MATH 251.

Typically Offered
Fall, Spring

MATH 512 - Introduction to Modern Algebra

Credits: 3

Introduction to the basic algebraic systems, viz., groups, rings, integral domains, and fields, often drawing from elementary number theory. Special emphasis will be given to methods of theorem proving.

Repeat for Credit
N

Requisites
Prerequisite: MATH 222.

Typically Offered
Fall

MATH 515 - Introduction to Linear Algebra

Credits: 3

Finite-dimensional vector spaces, linear transformations and their matrix representations, dual spaces, invariant subspaces, Euclidean and unitary spaces, solution spaces for systems of linear equations.

Repeat for Credit
N

Requisites
Prerequisite: MATH 222.

Typically Offered
Spring

MATH 520 - Foundations of Analysis

Credits: 3

A study of sets and sequences, neighborhoods, limit points, convergence, open and closed sets in the real line and in the plane, the concept of a continuous function.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 222 OR MATH 351.

Typically Offered
Spring

MATH 521 - The Real Number System

Credits: 3

An extensive development of number systems, with emphasis upon structure. Includes systems of natural numbers, integers, rational numbers, and real numbers.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 221 OR MATH 251.

Typically Offered
Fall

MATH 540 - Advanced Ordinary Differential Equations

Credits: 3

First-order scalar equations: geometry of integral curves, symmetries and exactly soluble equations; existence, uniqueness and dependence on parameters with examples. Systems of first-order equations, Hamilton's equations and classical mechanics, completely integrable systems. Higher-order equations. Initial value problems for second order linear equations, series solutions and special functions. Boundary value problems with applications. Introduction to perturbation theory and stability.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 340 OR MATH 351.

Typically Offered
Spring

MATH 551 - Applied Matrix Theory

Credits: 3

Matrix algebra, solutions to systems of linear equations, determinants, vector spaces, linear transformations, eigenvalues, linear programming, approximation techniques.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 205 OR MATH 220 OR MATH 250.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

MATH 560 - Introduction to Topology

Credits: 3

An introduction to the basic topological concepts. Topological spaces, metric spaces, closure, interior, and frontier operators, subspaces, separation and countability properties, bases, sub bases, convergence, continuity, homeomorphisms, compactness, connectedness, quotients and products. The course will include a brief introduction to proof techniques and set theory. Other topics in topology also may be included.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 222 OR MATH 351.

Typically Offered
Spring

MATH 570 - History of Mathematics

Credits: 3

A survey of the development of mathematics from ancient to modern times.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 220 OR MATH 250.

Typically Offered
Spring

K-State 8
Historical Perspectives

MATH 572 - Foundations of Geometry

Credits: 3

Euclidean, non-Euclidean, and finite geometries; role of axioms; practice proving theorems in a formal system; synthetic, metric, and transformation approaches to

Euclidean geometry.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 221 OR MATH 251.

Typically Offered
Fall

MATH 591 - Topics in Mathematics for Teachers

Credits: 1-3

Topics of importance for teachers of mathematics.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MATH 599 - Topics in Mathematics

Credits: 1-3

Courses on special topics.

Repeat for Credit
Y

Typically Offered
On sufficient demand

MATH 615 - Introduction to Digital Image Processing

Credits: 3

The basic ideas and techniques in digital image processing stem from mathematics, engineering, and computer science. This course focuses on ideas and techniques such as spatial filtering, frequency filtering (Fast Fourier Transform), scale filtering (Fast Wavelet Transform), and their applications to image compression standards and image recognition. The course will place equal emphasis on the mathematical ideas and their applications.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 220 OR MATH 250.

Typically Offered
Spring

MATH 620 - Convex Optimization for Data Science

Credits: 3

Convex optimization is an essential tool in data science and underlies many machine learning algorithms. This course provides students with the necessary tools, skills, vocabulary, and techniques, that will allow them to become life-long users of convex optimization in the context of data analysis.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 222 OR MATH 351.

Typically Offered
On sufficient demand

MATH 630 - Introduction to Complex Analysis

Credits: 3

Complex analytic functions and power series, complex integrals. Taylor and Laurent expansions, residues, Laplace transformations, and the inversion integral.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 222 OR MATH 351.

Typically Offered
Fall

MATH 632 - Elementary Partial Differential Equations

Credits: 3

Orthogonal functions, Fourier series, boundary value problems in partial differential equations.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 222 AND MATH 340; OR grade of C or better in MATH 351.

Typically Offered
Spring

MATH 633 - Advanced Calculus I

Credits: 3

Functions of one variable; limits, continuity, differentiability, Riemann-Stieltjes integral, sequences, series, power series, improper integrals.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 222 OR MATH 351.

Typically Offered
Fall

MATH 634 - Advanced Calculus II

Credits: 3

Functions of several variables; partial differentiation and implicit function theorems, curvilinear coordinates, differential geometry of curves and surfaces, vectors and vector fields, line and surface integrals, double and triple integrals, Green's Theorem, Stokes' Theorem, and Divergence Theorem.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 633.

Typically Offered
Spring

MATH 635 - Dynamics, Chaos, and Fractals

Credits: 3

An introduction to one dimensional real and complex dynamics: attracting and repelling cycles, iterations of quadratic polynomials, bifurcation theory, chaos, Hausdorff measures and Hausdorff dimension, fractals, Julia and Fatou sets, and Mandelbrot sets.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 221 OR MATH 251.

Typically Offered
Fall

MATH 655 - Elementary Numerical Analysis I

Credits: 3

Error analysis, root finding, interpolation, approximation of functions, numerical integration and differentiation, systems of linear equations.

Note
Knowledge of a Programming Language

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 221 OR MATH 251; AND grade of C or better in MATH 350 OR MATH 515 OR MATH 551.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

MATH 656 - Elementary Numerical Analysis II

Credits: 3

A continuation of MATH 655. Linear programming,

numerical solutions of differential equations, and the use of standard packages for the solutions of applied problems.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or better in MATH 340 OR MATH 351; AND grade of C or better in MATH 655.

Typically Offered
Spring

MATH 670 - Mathematical Modeling

Credits: 3

Introduction of modeling procedures. Case studies in mathematical modeling projects from physical, biological, and social sciences.

Repeat for Credit
N

Requisites
Prerequisite: 12 Credit hours of MATH courses level 500 or higher.

Typically Offered
Other

MATH 700 - Set Theory and Logic

Credits: 3

An introduction to logic, mathematical proof, and elementary set theory. Topics include elementary logic, relations, partitions, functions, cartesian products, disjoint unions, orders, construction of the natural numbers, ordinal and cardinal numbers, the Axiom of Choice, and transfinite induction. Special emphasis will be given to proving theorems.

Repeat for Credit
N

Requisites
Prerequisite: MATH 511 or MATH 512.

Typically Offered
Other

MATH 704 - Introduction to the Theory of Groups

Credits: 3

Introduction to abstract group theory, permutation groups, homomorphisms, direct products, Abelian groups. Jordan-Holder and Sylow theorems.

Repeat for Credit
N

Requisites
Prerequisite: MATH 512.

Typically Offered
Other

MATH 705 - Computational Math

Credits: 3

Topics from complex analysis, vector calculus, higher-dimensional calculus, ordinary differential equations, liner algebra, and geometry of curves.

Repeat for Credit
N

Requisites
Prerequisite: MATH 222.

Typically Offered
Fall

MATH 706 - Theory of Numbers

Credits: 3

Divisibility, congruences, multiplicative functions, number theory from an algebraic viewpoint, quadratic reciprocity, Diophantine equations, prime numbers.

Repeat for Credit
N

Requisites
Prerequisite: MATH 221 and either MATH 511 or MATH 512.

Typically Offered
Fall

MATH 707 - Theory of Numbers II

Credits: 3

Continuation of MATH 706, including p-adic numbers, basic analytic number theory, geometry of numbers, and diophantine approximation.

Repeat for Credit
N

Typically Offered
Spring

MATH 710 - Introduction to Category Theory

Credits: 3

Categories, duality, special morphisms, functors, natural transformations, limits and colimits, adjoint situations, and applications.

Repeat for Credit
N

Requisites
Prerequisite: MATH 730 and MATH 770.

Typically Offered
Other

MATH 711 - Category Theory

Credits: 3

Set-valued functors and concrete categories, factorization structures, algebraic and topological functors, categorical completions, Abelian categories.

Repeat for Credit
N

Requisites
Prerequisite: MATH 710.

Typically Offered
Other

MATH 713 - Advanced Applied Matrix Theory

Credits: 3

A development of the concepts of eigenvalues by considering applications in differential equations, quadratic forms and estimation problems. Supporting topics include the Jordan canonical form, functions of matrices, vector and matrix norms, convex sets, with selected topics from the theory and application of the simplex algorithm, Markov chains, Leslie population models, Leontieff input-output model.

Repeat for Credit
N

Requisites
Prerequisite: MATH 551 or MATH 630.

Typically Offered
Summer

MATH 715 - Applied Mathematics I

Credits: 3

Analysis of numerical methods for linear algebra. Perturbation theory and error analysis, matrix factorizations, solutions to linear systems, least-squares, problems, techniques for special matrix structures, symmetric and nonsymmetric eigenvalue problems, iterative and direct methods.

Note
Three hours recitation.

Repeat for Credit
N

Requisites
Prerequisite: MATH 515 or MATH 551 or equivalent.

Typically Offered
Fall

MATH 716 - Applied Mathematics II

Credits: 3

Linear operator theory applied to matrix, integral and differential equations. Spectral theory, the Fredholm Alternative, least-squares and pseudo-inverses. Banach and Hilbert space techniques, Fourier series and wavelets, theory of distributions, Green's functions.

Note
Recitation 3 hours.

Repeat for Credit
N

Requisites
Prerequisite: MATH 340 and MATH 515 or MATH 551; or equivalent.

Typically Offered
Spring

MATH 721 - Introduction to Real Analysis

Credits: 3

Limits, continuity, uniform convergence, completeness, differentiation, Riemann integration.

Repeat for Credit
N

Requisites
Prerequisite: MATH 634 or graduate standing.

Typically Offered
Fall

MATH 722 - Introduction to Functions of Several Variables

Credits: 3

Analysis of functions of several variables, including differentiability, partial differentiability, maxima and minima, inverse function theorem, implicit function theorem, integration, Fubini's theorem.

Repeat for Credit
N

Requisites
Prerequisite: MATH 634 or graduate standing.

Typically Offered
Spring

MATH 723 - Complex Functions

Credits: 3

Introduction to the theory of analytic functions, designed to prepare students for the qualifying exams. Holomorphic functions, contour integrals, residue theory, conformal mapping and other topics.

Note
Three hours lecture each week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 721 is recommended

Typically Offered
Spring

MATH 725 - The Mathematics of Data and Networks I

Credits: 3

Develops the mathematical tools necessary for studying and handling large data-sets and networks. Includes matrix, graph, and probability theory, dimensionality reduction, clustering, maximum likelihood, Bayesian networks, sparsification, modularity, information theory, hidden Markov chains, branching processes, electrical networks, internet mathematics, random walks, random graphs, random matrices, and search algorithms.

Repeat for Credit
N

Requisites
Recommended prerequisite: MATH 551, MATH 222.

Typically Offered
Fall

MATH 726 - The Mathematics of Data and Networks II

Credits: 3

Continuation of MATH 725. Develops the mathematical tools necessary for studying and handling large data-sets and networks. Includes matrix, graph, and probability theory, dimensionality reduction, clustering, maximum likelihood, Bayesian networks, sparsification, modularity, information theory, hidden Markov chains, branching processes, electrical networks, internet mathematics, random walks, random graphs, random matrices, and search algorithms.

Repeat for Credit

N

Requisites
Recommended prerequisite: MATH 551, MATH 222.

Typically Offered
Spring

MATH 730 - Abstract Algebra I

Credits: 3

Groups, rings, fields, vector spaces and their homomorphisms. Elementary Galois theory and decomposition theorems for linear transformations on a finite dimensional vector space.

Repeat for Credit
N

Requisites
Prerequisite: MATH 512 or consent of instructor.

Typically Offered
Fall

MATH 731 - Abstract Algebra II

Credits: 3

Continuation of MATH 730.

Repeat for Credit
N

Requisites
Prerequisite: MATH 730 or consent of instructor.

Typically Offered
Spring

MATH 740 - Calculus of Variation

Credits: 3

Necessary conditions and the Euler-Lagrange equations. Hamilton-Jacobi theory, Noether's theorems, direct methods, applications to geometry and physics.

Repeat for Credit
N

Requisites
Prerequisite: MATH 722 or equivalent.

Typically Offered
On sufficient demand

MATH 745 - Ordinary Differential Equations

Credits: 3

First-order equations and applications, second-order equations and oscillation theorems, series solutions and special functions, Sturm Liouville problems, linear systems, autonomous systems and phase plane analysis, stability, Liapunov's method, periodic solutions, perturbation and asymptotic methods, existence and uniqueness theorems.

Repeat for Credit
N

Requisites
Prerequisite: MATH 340.

Typically Offered
Fall

MATH 755 - Dynamic Modeling Processes

Credits: 3

Topics to include equilibrium and stability, limit circles, reaction-diffusion, and shock phenomena, Hopf bifurcation and cusp catastrophes, chaos and strange attractors, bang-bang principle. Applications from physical and biological sciences and engineering.

Repeat for Credit
N

Requisites
Prerequisite: MATH 340 and MATH 551.

Typically Offered
Other

MATH 760 - Introduction to Probability Theory

Credits: 3

An introduction to the mathematical theory of probability. Material covered includes combinatorial probability, random variables, independence, expectations, limit

theorems, Markov chains, random walks, and martingales.

Repeat for Credit
N

Requisites
Prerequisite: MATH 633 and STAT 510.

Typically Offered
On sufficient demand

MATH 770 - Introduction to Topology/Geometry I

Credits: 3

This is the first course of a two course sequence including definitions and examples of topological spaces, simplicial complexes, topological and smooth manifolds, quotient spaces, CW complexes, projective spaces and knots. Topological properties including elementary separation, compactness, connectedness. Homotopy, the fundamental group, Covering spaces, Euler characteristics, classification of closed surfaces, differential forms, integration, Stokes' theorem, de Rham cohomology.

Repeat for Credit
N

Requisites
Prerequisite: MATH 633.

Typically Offered
Fall

MATH 771 - Introduction to Topology/Geometry II

Credits: 3

The second course in a two class introduction to topology at a graduate level. Second term topics include: covering spaces, Euler characteristic, classification of closed surfaces, differential forms, integration, Stokes' theorem, and de Rham cohomology.

Repeat for Credit
N

Requisites
Prerequisite: MATH 770.

Typically Offered
Spring

MATH 772 - Elementary Differential Geometry

Credits: 3

Curves and surfaces in Euclidean spaces, differential forms and exterior differentiation, differential invariants and frame fields, uniqueness theorems for curves and surfaces, geodesics, introduction to Riemannian geometry, some global theorems, minimal surfaces.

Repeat for Credit
N

Requisites
Prerequisite: MATH 340.

Typically Offered
Other

MATH 789 - Combinatorial Analysis

Credits: 3

Permutations, combinations, inversion formulas, generating functions, partitions, finite geometries, difference sets, and other topics.

Repeat for Credit
N

Requisites
Prerequisite: MATH 512.

Typically Offered
Other

MATH 791 - Topics in Mathematics for Secondary School Teachers

Credits: 3

Topics of importance in the preparation of secondary school teachers to teach modern mathematics.

Repeat for Credit
Y

Typically Offered
Other

MATH 799 - Topics in Mathematics

Credits: .5-3

Courses on special topics to be taught on sufficient demand.

Repeat for Credit
Y

Typically Offered
On sufficient demand

MATH 801 - Numerical Solution of Differential Equations I

Credits: 3

Single and multistep methods for initial-value problems for ordinary differential equations; discretization and round-off error; consistency, convergence, and stability of these methods; stiff equations and implicit methods; two-point boundary value problems; initial and boundary-value problems for partial differential equations; finite difference methods; marching schemes for parabolic and hyperbolic problems; consistency, stability, convergence, and the Lax equivalence theorem; treatment of boundary conditions; boundary-value problems for elliptic equations; relaxation, alternating direction, and strongly-implicit iterative methods; nonlinear problems; finite element method.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 655 and knowledge of a programming language.

Typically Offered
Fall

MATH 802 - Numerical Solution of Differential Equations II

Credits: 3

Continuation of MATH 801.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 801.

Typically Offered
Spring

MATH 810 - Higher Algebra I

Credits: 3

Theory of groups, theory of rings and ideals, polynomial domains, theory of fields and their extensions.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 731.

Typically Offered
Fall

MATH 811 - Higher Algebra II

Credits: 3

Continuation of MATH 810.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 810.

Typically Offered
Spring

MATH 812 - Homological Algebra I

Credits: 3

Introduction to the basics of homological and cohomological delta functors with applications to specific categories. Topics include Abelian categories, functors, exactness, chain complexes and maps, cochain complexes and maps, projective and injective resolutions, left and right derived functors, homological dimension, double complexes, spectral sequences, Tor and Ext functors, cohomology of groups, Lie algebras, and Hochschild homology.

Repeat for Credit
Y

Requisites

Prerequisite: MATH 811.

Typically Offered
Fall

MATH 813 - Homological Algebra II

Credits: 3

Introduction to special homology and cohomology theories. Topics include Galois cohomology, cyclic homology, local cohomology theories, localization, derived categories, and the calculus of fractions in Abelian categories.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 812.

Typically Offered
Spring

MATH 814 - Lie Algebras and Representations I

Credits: 3

Introduction to Lie algebras. Topics include ideals, homomorphisms, nilpotent and solvable algebras, radicals, killing forms, Cartan subalgebras, semisimple Lie algebras and root systems, classification of semisimple Lie algebras, conjugacy theorems, enveloping algebras and PBW theorems, Serre relations, and constructions of semisimple Lie algebras and their enveloping algebras.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 811.

Typically Offered
Fall-Odd Years

MATH 815 - Lie Algebras and Representations II

Credits: 3

Introduction to Kac-Moody algebras and their representations, Verma modules and BGG categories, and the Kac-Weyl character formula. In addition, special topics include quantum groups and their representations.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 814.

Typically Offered
Spring-Odd Years

MATH 816 - Algebraic Geometry I

Credits: 3

Introduction to affine algebraic varieties over algebraically closed fields. Topics include Hilbert Nullstellensatz, Zarski topology, morphisms, differentials, smoothness, separability, and normality, algebraic and projective varieties, sheaf theory, sheaf cohomology, and vector bundles.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 811.

Typically Offered
Fall

MATH 817 - Algebraic Geometry II

Credits: 3

Introduction to schemes. Topics include categories, representable functors, prime spectra, algebraic schemes, separable schemes, normal schemes, proper schemes, schemes with bases, completions, formal schemes, Zariski's Theorem, Frobenius morphisms, and etale morphisms.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 816.

Typically Offered
Spring

MATH 818 - Introduction to Algebraic Groups I

Credits: 3

Introduction to algebraic groups. Topics include a review of algebraic geometry on varieties and morphisms, Lie algebras of algebraic groups, actions of algebraic groups over algebraic varieties, Jordan-Chevalley decompositions, solvable and unipotent algebraic groups, radicals and unipotent radicals, Borel subgroups, and parabolic subgroups.

Repeat for Credit
N

Requisites
Prerequisite: MATH 811.

Typically Offered
Fall-Even Years

MATH 819 - Introduction to Algebraic Groups II

Credits: 3

Introduction to reductive and semisimple algebraic groups, Bruhat decompositions, flag varieties, cohomology groups of line bundles over flag manifolds, Chevalley groups and their representations, Weyl modules and classification of irreducible modules, group functors and schemes, Hopf algebras and their representations.

Repeat for Credit
N

Requisites
Prerequisite: MATH 818.

Typically Offered
Spring-Even Years

MATH 821 - Real Analysis

Credits: 3

Measure theory and integration, Lebesgue integration, L_p-spaces, Hilbert spaces, integration on product spaces, Fubini's theorem.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 721 and MATH 722.

Typically Offered
Fall

MATH 822 - Real Analysis II

Credits: 3

Measure and integration on locally compact spaces: Radon measures, the Riesz Representation Theorem. Signed measures and differentiation: Lebesgue decomposition, Radon-Nikodym theorem, Differentiation of measures. Some topics on Probability (e.g., probability measures, the Central Limit Theorem, the Law of Large Numbers) or on Harmonic analysis groups, depending on the interests of students in class

Repeat for Credit
N

Requisites
Prerequisite: MATH 821.

Typically Offered
Spring

MATH 823 - Geometric Function and Measure Theory I

Credits: 3

Topics include general measure theory, covering theorems, Hausdorff measure, area and coarea formulas, distributions, Sobolev spaces, Poincare' inequalities, embeddings theorem, changes of variables, extentions, and capacity. Applications include quasiconformal and quasiregular maps in IR^{IN} and analysis on fractals.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 821.

Typically Offered
Fall

MATH 824 - Geometric Function and Measure Theory II

Credits: 3

Continuation of Geometric Function and Measure Theory I.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 823.

Typically Offered
Spring

MATH 825 - Complex Analysis I

Credits: 3

Holomorphic functions, harmonic functions, the Cauchy integral theorem, normal families and the Riemann mapping theorem, and the Mittag-Leffler theorem.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 822 or consent of department.

Typically Offered
Fall

MATH 826 - Complex Analysis II

Credits: 3

Analytic continuation, the Picard theorem, Hp-spaces, elementary theory of Banach algebra, the theory of Fourier transforms, and the Paley-Wiener theorems.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 825.

Typically Offered
Spring

MATH 827 - Classical and Modern Fourier Analysis I

Credits: 3

Topics include Fourier analysis on the circle, singular integrals of convolution type, Littlewood-Paley theory and multipliers, BMO and Carleson Measures, and boundedness and convergence of Fourier integrals (or singular integrals of nonconvolution type).

Repeat for Credit
Y

Requisites
Prerequisite: MATH 821.

Typically Offered
Fall

MATH 828 - Classical and Modern Fourier Analysis II

Credits: 3

Continuation of Classical and Modern Fourier Analysis I.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 827.

Typically Offered
Spring

MATH 830 - Algebraic Number Theory

Credits: 3

Topics include lattice theory, geometry of numbers, algebraic number fields, Dedekind domains, discrete valuation rings, ideal class group, group units, cyclotomic fields, Galois extensions.

Repeat for Credit
N

Requisites
Prerequisite: MATH 706, MATH 730.
Corequisite: MATH 731.

Typically Offered
Spring

MATH 831 - Analytic Number Theory

Credits: 3

Potential topics include; prime number theorem characters, L-functions, Diophantine problems, exponential sums, p-

adic analysis, Diophantine approximations, Sieve Methods, Circle method.

Repeat for Credit
N

Requisites
Prerequisite: MATH 630, MATH 633, MATH 706.

Typically Offered
Spring

MATH 840 - Differential Equations I

Credits: 3

Basic ordinary and partial differential equations. First-order ordinary differential equations: symmetries and solutions in quadratures; existence, uniqueness and dependence on parameters, systems of first order equations, analysis of equilibria. Second order equations: series solutions and special functions, initial- and boundary-value problems for second-order equations. Elements of integral equations. First-order partial differential equations. Basic second-order partial differential equations: wave equations, heat equations, Poisson equation, Schrodinger equation.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 634 or MATH 745 or consent of instructor.

Typically Offered
Fall

MATH 841 - Differential Equations II

Credits: 3

Where PDEs come from. Initial and boundary-value problems. A crash course in distribution theory: different spaces of distributions, Fourier and Laplace transformations of distributions, Sobolev spaces. The Poisson equation in bounded and in exterior domains; properties of solutions of elliptic equations. The classical evolution equations revisited. Energy estimates, existence and uniqueness theorems, regularity and other properties of solutions. Simple examples of nonlinear PDEs.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 840.

Typically Offered
Spring

MATH 842 - Differential Equations III

Credits: 3

Continuation of MATH 841.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 841.

Typically Offered
Spring

MATH 843 - Advanced Probability I

Credits: 3

Review of measure theory notions specific to probability, including classical limit theorems, constructions of Brownian motion, Stochastic integration, the martingale representation theorem and martingale-based function spaces.

Repeat for Credit
N

Requisites
Prerequisite: STAT 510 and MATH 821.

Typically Offered
Fall

MATH 844 - Advanced Probability II

Credits: 3

Topics may include stochastic processes, random matrix theory, free probability, random fractals and random analytic maps.

Repeat for Credit
N

Requisites

Prerequisite: MATH 843.

Typically Offered
Spring

MATH 852 - Functional Analysis I

Credits: 3

Topological vector spaces; locally convex spaces (Hahn-Banach Theorem, weak topology, dual pairs, Krein-Milman Theorem, theory of distributions); Banach spaces (Uniform Boundedness Principle, Open Mapping Theorem and applications, Alaoglu's Theorem, analytic vector-valued functions, Krein-Smulian Theorem); C(X) as a Banach space (Stone-Weierstrass Theorem, Riesz Theorem); Lp spaces.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 821.

Typically Offered
Other

MATH 853 - Functional Analysis II

Credits: 3

Banach Algebras (spectrum, Gelfand Fourier transform, holomorphic functional calculus); Hilbert spaces (geometric properties, Riesz's Theorem, projections, the adjoint); functional calculus for normal operators; compact operators (spectral properties, Min-Max Theorem, Schatten-vol Neumann classes); Fredholm operators; other operator topologies on B(H); unbounded self-adjoint operators. Other topics.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 852.

Typically Offered
Other

MATH 855 - Methods of Applied Mathematics I

Credits: 3

An introduction to the mathematical techniques of problem solving in the sciences and engineering. Construction of mathematical models; problem formulation, dimensional analysis and scaling; solution methods for differential equations and difference equations; methods for obtaining approximate solutions; regular and singular perturbations methods, asymptotic series, applications to specific equations and scientific problems.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 630, MATH 633 and MATH 551.

Typically Offered
Fall

MATH 856 - Methods of Applied Mathematics II

Credits: 3

A continuation of MATH 855. Asymptotic expansion of integrals; the methods of stationary phase and steepest descent; summations of series, the Shanks transformation and the Pade fractions; boundary layer theory; the WKB and Langer approximations; the method of averaging and the method of multiple scales.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 855.

Typically Offered
Spring

MATH 857 - Nonlinear Analysis I

Credits: 3

The course deals with studies of nonlinear operator equations, existence of their solutions, uniqueness of the solutions, numerical methods for finding solutions. Fixed point theorems, topological principles, nonlinear elliptic equations and evolution equations, ill-posed and inverse problems are discussed.

Repeat for Credit

Y

Requisites
Prerequisite: MATH 821, MATH 822, MATH 852, MATH 853 and MATH 840 is recommended.

Typically Offered
Fall

MATH 861 - Numerical Analysis I

Credits: 3

Topics covered may include elementary functional analysis relevant to numerical analysis; numerical solution of differential or integral equations; analysis of stability and convergence; numerical linear algebra including large-scale systems; approximation theory.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 634 and MATH 655.

Typically Offered
Fall

MATH 862 - Numerical Analysis II

Credits: 3

Continuation of MATH 861.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 861.

Typically Offered
Spring

MATH 864 - Theory of Ordinary Differential Equations I

Credits: 3

The modern theory of ordinary differential equations including general theory and the theory of linear differential equations.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 722 and MATH 731.

Typically Offered
Fall

MATH 865 - Theory of Ordinary Differential Equations II

Credits: 3

Continuation of MATH 864 to include nonlinear equations and differential equations in Banach spaces.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 864.

Typically Offered
Spring

MATH 875 - Algebraic Topology I

Credits: 3

Homology and cohomology; simplicial, singular, cellular, and axiomatic theories; cup products; universal coefficient and Kunneth theorems; Hurewicz theorem in dimension one; orientation of manifolds; degree of maps spectral sequences, Whitehead's theorem.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 771, MATH 731.

Typically Offered
Fall-Even Years

MATH 876 - Algebraic Topology II

Credits: 3

Continuation of MATH 875. Fibrations, cofibrations, higher homotopy groups, characteristic classes, sheaves,

rational homotopy theory, simplicial objects, spectra, K-theory.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 875.

Typically Offered
Spring-Odd Years

MATH 877 - Classical and Quantum General Relativity

Credits: 3

A self contained introduction to general Relativity, followed by a mathematical introduction to quantum mechanics and quantum field theory. Course culminates in review of current approaches to quantizing general Relativity.

Repeat for Credit
N

Typically Offered
Fall

MATH 881 - Differential Topology

Credits: 3

Tangent spaces and tensor bundles; derivatives; inverse function theorem, Sard's theorem and applications; vector fields and flows; Morse functions; handle decompositions; embedding theorems; orientations and orientability via tangent bundles; intersection theory; cobordism theory.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 771, MATH 722.

Typically Offered
Fall-Odd Years

MATH 882 - Differential Geometry

Credits: 3

Riemannian metrics, covariant derivatives, Gauss curvature, Riemann curvature; Gauss-Bonnet theorem; Exponential map and normal coordinates; The Hopf-Rinow Theorem; Jacobi fields; The Cartan-Hadamard Theorem; Ricci curvature and Myers' and Bonnet's Theorems; selected topics and Kähler geometry; symplectic topology; gauge theory.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 881.

Typically Offered
Other

MATH 890 - Riemann Surfaces

Credits: 3

Introduction to Riemann Surfaces. Topics will include complex charts, complex structures, holomorphic and meromorphic maps (and functions), order of poles and zeros, covering spaces, monodromy of holomorphic maps, differential forms, DeRham cohomology groups, integration on Riemann surfaces, Cech cohomology of sheaves, compact Riemann surfaces, finite theorems, divisors and sheaves of meromorphic forms, and the Riemann Roch Theorem.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 811, and MATH 822.

Typically Offered
Spring

MATH 896 - Topics in Mathematics

Credits: .5-18

Topics in Mathematics

Repeat for Credit
Y

Requisites
Prerequisite: Background of courses needed for topic

undertaken and consent of instructor.

Typically Offered
Fall, Spring, Summer

MATH 897 - Seminar in Mathematics Education

Credits: 1-3

Seminar in Mathematics Education

Repeat for Credit
Y

Typically Offered
Spring, Summer

MATH 898 - Master's Research

Credits: 1-18

Master's Research

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MATH 899 - Thesis Topics

Credits: 1-18

Thesis Topics

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MATH 920 - Theory of Groups

Credits: 3

Group representations and group characters, transfer, signalizer functors, theory of pushing-up, groups of Lie type, (B, N)-pairs, chamber systems and buildings, sporadic simple groups, amalgam methods, Bass-Serre theory.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 811.

Typically Offered
Fall

MATH 924 - Several Complex Variables

Credits: 3

An introduction to the theory and analytic functions of several variables, domains of homomorphy and pseudoconvexity, the Levi problem, delta bar equations, Cousin problems, zeros of analytic functions, integral formulas, holomorphic mappings.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 826.

Typically Offered
Other

MATH 925 - Group Representations and Character Theory I

Credits: 3

The basic topics in representation theory are covered: Schur's Lemma, irreducibility, class functions, characters, orthogonality relations, Frobenius-Schur theorem, induced characters and Frobenius reciprocity, Mackey's theorem, Clifford's theorem, exceptional characters and applications to group orders, generalized characters and Brauer's characterizations of characters.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 811.

Typically Offered
Fall

MATH 926 - Group Representations and Character Theory II

Credits: 3

Depending on the interests of the students, topics may be chosen from the following: modular representations, Brauer's theory of blocks, characters of the linear groups, homologically induced representations, representations of complex Lie algebras.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 925.

Typically Offered
Other

MATH 991 - Topics in Algebra

Credits: 3

Selected topics in modern algebra.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

MATH 992 - Topics in Analysis

Credits: 3

Selected topics in modern analysis.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

MATH 993 - Topics in Harmonic Analysis

Credits: 3

Selected topics in harmonic analysis.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

MATH 994 - Topics in Applied Mathematics

Credits: 3

Selected topics in applied mathematics.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

MATH 995 - Topics in Geometry

Credits: 3

Selected topics in geometry.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

MATH 996 - Topics in Topology

Credits: 3

Selected topics in topology.

Note
Consent of instructor

Repeat for Credit

Y

Typically Offered
On sufficient demand

MATH 997 - Topics in Number Theory

Credits: 3

Selected topics in number theory.

Note
Automorphic Forms and L-Functions. Consent of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

MATH 999 - Research in Mathematics

Credits: 1-18

Research in Mathematics

Repeat for Credit
Y

Requisites
Prerequisite: Sufficient training to carry on the line or research undertaken and consent of instructor.

Typically Offered
Fall, Spring, Summer

MC 100 - SMC Orientation

Credits: 1

An overview of the curriculum electives, extracurricular activities in mass communications, the advising process, career options, and ways to improve student success.

Repeat for Credit
N

Typically Offered
Fall, Spring

MC 110 - Mass Communication in Society

Credits: 3

A historical, social, legal, economic, and technological study of mass communication and its role and impact in society.

Note
Open to majors and non-majors.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Historical Perspectives

MC 120 - Principles of Advertising

Credits: 3

An examination of the advertising field and its relationship to marketing and journalism.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Social Sciences

MC 130 - Writing Conventions and Mechanics

Credits: 1

Reorientation to basic rules of grammar, spelling and punctuation, and assessment of student writing skills prior to admission to the A.Q. Miller School. Students must receive a "C" or better to advance in JMC curriculum.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

MC 131 - Elements of Media Writing

Credits: 1

The basics of Associated Press writing style and writing across media platforms. Students must receive a "C" or better to advance in JMC curriculum.

Repeat for Credit
N

Requisites
Prerequisite: MC 130 with a grade of "C" or better.

Typically Offered
Fall, Spring, Summer

MC 132 - Writing Styles and Audiences

Credits: 1

Basic exposure to writing across platforms for target audiences in journalism and strategic communications. Students must receive a "C" or better to advance in JMC curriculum.

Repeat for Credit
N

Requisites
Prerequisite: MC 131 with a grade of "C" or better.

Typically Offered
Fall, Spring, Summer

MC 160 - Principles of Journalism

Credits: 3

An overview of the current news industry, including legacy media and newer platforms. Introduction to news gathering and reporting, including hands-on work on the multi-platform JMC NewsDesk.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

MC 165 - KSDB-FM Participation

Credits: 0

Students participate in various music, news, sports, program production and other operational roles on student radio station KSDB-FM.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MC 166 - KKSU-TV Participation

Credits: 0

Exposure to basic video production roles and participation in producing a television program for KKSU-TV.

Repeat for Credit
Y

Typically Offered
Fall, Spring

MC 180 - Principles of Public Relations

Credits: 3

Contemporary persuasive social science principles, processes, and issues involved in the management of communications between an organization and its publics.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

MC 190 - Topics in Journalism and Mass Communications

Credits: 1-3

Selected topics in the study of mass communication practices and principles.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MC 191 - Audio Essentials

Credits: 1

Basic audio production concepts and techniques.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

MC 192 - Photography Essentials

Credits: 1

Builds a working knowledge of photographic theory and practical application of photo composition, editing and production using DSLR cameras and professional photo editing software. Part of the Content Creator Studio.

Repeat for Credit
N

Typically Offered
Fall, Spring

MC 193 - Video Production Essentials

Credits: 1

Basic video production practices with a focus on editing concepts.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

MC 194 - Social Media Essentials

Credits: 1

Introduction to basic concepts and uses of social media for business and industry. Provides foundational knowledge of today's dynamic social media environment so that students may analyze successful social media programs within their future professions.

Repeat for Credit
N

Typically Offered
Fall, Spring

MC 195 - Creative Design

Credits: 1

Introduction to essential concepts and skills needed to create effective online visual content. Examines creative strategies, identifies content design techniques that attract attention, and builds skills in developing engaging copy and visuals. Part of the Content Creator Studio.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

MC 196 - Content Management for Distribution

Credits: 1

Introduction to basic knowledge and skills needed to manage, structure, and distribute online content and measure content impact. Explores various content types to be used across multiple digital platforms and content strategies such as SEO and paid promotion to maximize visibility. Part of the Content Creator Studio.

Repeat for Credit
N

Typically Offered
Fall, Spring

MC 197 - Podcasting Essentials

Credits: 1

Introduces students to podcasting and uses hands-on instruction to teach foundational skills and principles in audio, content creation, audience understanding and podcast management.

Repeat for Credit
N

Typically Offered
Fall, Spring

MC 200 - News Reporting and Writing Across Platforms

Credits: 3

Instruction in news reporting and writing for publication across various media platforms.

Repeat for Credit
N

Requisites
Prerequisite: MC 130, MC 131, and MC 132, and MC 160 with a grade of C or better; OR MC 130, AGCOM 110 and MC 160 with a grade of C or better.

Typically Offered
Fall, Spring, Summer

MC 265 - Innovations in Media and Communication

Credits: 3

Examines new technological innovations and explores how technology in historical, legal, economic and social contexts combine to enable the changes thought of as innovations in media and communication.

Repeat for Credit
N

Typically Offered
Fall, Spring

MC 280 - Writing for Advertising & Public Relations

Credits: 3

Examines various forms of advertising and public relations writing techniques, with special emphasis on creation of tactical messages for different media and audiences utilizing persuasion, engagement and professionalism.

Repeat for Credit
N

Typically Offered
Fall, Spring

MC 290 - Topics in Mass Communications

Credits: 1-3

Selected topics in the study of mass communication principles and practices.

Repeat for Credit
Y

Typically Offered
Fall, Spring

MC 301 - Photo & Video Storytelling

Credits: 3

Explores the power of journalistic storytelling through professional still and moving images. Develops skills in shooting and retouching photographs for a wide range of genres, creating videos for commercial and journalistic applications, and developing a workflow while building your storytelling portfolio.

Repeat for Credit
N

Typically Offered
Fall, Spring

MC 306 - Photographic Storytelling

Credits: 3

Equips students with the skills necessary to excel in the modern journalism landscape. Students will delve into theoretical concepts and practical applications related to digital photography composition, editing, and workflow for convergent media. Through a blend of classroom study and hands-on experience, students will learn fundamental principles and techniques in photography, photographic copy style writing, photo editing, workflow, software, and camera operations.

Repeat for Credit
N

Typically Offered
Fall or Spring

MC 310 - What's the Score? Sports Media in Society

Credits: 3

Considers the role of sports and how the way they are covered and portrayed in the media plays a role in society. Examines how gender, race and other identities are reflected in sports coverage and fandom.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Social Sciences

MC 316 - Interactive Journalism Design

Credits: 3

Fosters AI literacy and the understanding of its potential and implications for the media industry and news production. Builds on the foundations of news storytelling, data analytics and adds interactivity techniques to help students tell dynamic journalistic stories.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

MC 331 - Photography Commercial Imaging

Credits: 3

Introduces advanced photography and commercial imaging techniques. Builds skill in producing professional images in commercial settings. Examines principles of lighting, photo/video editing, workflow, and monetization of work and portfolio.

Repeat for Credit
N

Typically Offered
Fall, Spring

MC 332 - Photography and Digital Storytelling Abroad

Credits: 3

Participants in this study abroad program will learn basic digital photography and profile writing techniques through the experience of meeting and telling the stories of those who live and work in Orvieto, Italy. Students will create an online platform to share their stories with the rest of the world. They will come away with a professional style portfolio piece, as well as a deeper understanding of the stories and customs of a different country.

Note
This course is targeted specifically for study abroad students.

Repeat for Credit
N

Typically Offered
Summer

MC 340 - Editing for Print and Online Media

Credits: 3

Fundamentals of micro and macro journalistic editing for print and digital media including industry standards, practices, and ethics.

Repeat for Credit
N

Requisites
Prerequisite: MC 200, or MC 221, or MC 280 with a grade of C or better.

Typically Offered
Fall

MC 341 - Immersive Digital Storytelling

Credits: 3

Builds on theories and concepts of visual communication. Uses special equipment and software programs to introduce concepts and build skills in

brainstorming, sketching, filming, modeling, editing, producing visual effects and immersive experiences, and distributing extended reality (XR) stories for both traditional and emerging media platforms.

Repeat for Credit
N

Requisites
Recommended Foundation Course: MC 316

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

MC 345 - Application of Layout and Printing techniques in Agriculture and Natural Resources

Credits: 3

Advances students' understanding of how industry-adopted software and hardware are used to develop print media, from individual use to integrating a variety of software and hardware in production.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: AGCOM 210 or MC 341

Typically Offered
Fall

Cross-listed
AGCOM 345

MC 360 - Theories in Strategic Communication

Credits: 3

An examination of persuasion and behavior change theories as applied to advertising and public relations messages.

Repeat for Credit
N

Requisites
Prerequisites: MC 120 or MC 180 with a C or better, or instructor permission.

Typically Offered
Fall, Spring, Summer

MC 365 - Writing in the Digital Economy

Credits: 3

Examines writing in an information and attention economy from a globalized digital perspective. Along with brief introductions to economic theory, the course will discuss and debate the role of writers and content producers within the context of digital delivery and distribution. No prior experience with economic theory is needed.

Repeat for Credit
N

Typically Offered
Fall, Spring

MC 370 - Social Media Strategy & Management

Credits: 3

Strategic methods and approaches for messaging via social media platforms.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

MC 374 - Social Media Content Development

Credits: 3

Builds skills in translating ideas into authentic, interactive and meaningful social media content through compelling imagery, video, design, and writing. Covers tools and techniques needed to develop a social media content roadmap for creating engaging content across multiple platforms.

Repeat for Credit
N

Typically Offered
Fall, Spring

MC 375 - Social Media Influencing & Personal Branding

Credits: 3

Develops skills in working with social media influencers and building personal influence. Examines concepts related to building and analyzing personal brands, creatively designing influencer campaigns, engaging and persuading online audiences, and understanding the legalities of influencing.

Repeat for Credit
N

Typically Offered
Fall, Spring

MC 390 - Topics in Journalism and Mass Communications

Credits: 1-3

Selected topics in the study of mass communications practices and principles.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MC 396 - Research for Advertising and Public Relations

Credits: 3

Examines how research data and insights inform successful advertising and public relations strategy. Explores concepts and skills in research methods, database analysis, results communication and visualization, and research-strategy connection.

Repeat for Credit
N

Typically Offered
Fall, Spring

MC 399 - Honors Seminar in Mass Communications

Credits: 3

Honors Seminar in Mass Communications

Repeat for Credit
N

Requisites
Prerequisite: Honors students only.

Typically Offered
Other

MC 403 - Advanced Reporting and Writing Across Platforms

Credits: 3

Intensive course emphasizing advanced reportorial principles and practices for multiple media platforms.

Repeat for Credit
N

Requisites
Prerequisite: MC 200 with grade of C or better; majors have priority, others by department consent.

Typically Offered
Fall, Spring

MC 405 - Perfect Podcasting

Credits: 3

Focuses on the history, form, and functions of podcasting as a mass communication tool that is increasingly replacing broadcast radio as America's audio delivery system of choice.

Note
Nonfictional and fictional narratives, spoken word content, public service, current events-based reports, music, and a variety of "chum casts"—just a few of podcasting's ever-developing art forms—will be unpacked, demonstrated, and practiced.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MC 406 - Multiplatform News Reporting

Credits: 3

Advanced techniques of reporting, writing, and producing news for audio, video, and Web-related media.

Repeat for Credit
N

Requisites
Prerequisite: MC 301 with grade of C or better; majors have priority, others by department consent.

Typically Offered
Fall, Spring

MC 409 - Advanced Strategic Communications Writing

Credits: 3

Strategic aspects of public relations writing and messaging through advanced types of client communications projects.

Repeat for Credit
N

Requisites
Recommended Prerequisite: MC 280 with a C or better.

Typically Offered
Fall, Spring, Summer

MC 410 - Sports Reporting

Credits: 3

The study of today's sports media environment with an emphasis on reporting, writing, and producing sports stories for audio, video, print, Internet, and other platforms.

Repeat for Credit
N

Requisites
Prerequisite: MC 301 with a grade of C or better.

Typically Offered
Fall, Spring

MC 416 - Photojournalism

Credits: 3

The materials, principles, and processes of photography directed toward visual reporting in newspapers, magazines and other media.

Note
Lectures, demonstrations and laboratory.

Repeat for Credit
N

Requisites
Prerequisite: MC 331 with grades of C or better; majors have priority, others by department consent.

Typically Offered
Fall, Spring

MC 426 - Magazine Writing, Editing and Design

Credits: 3

Preparation of feature stories and articles for *Update* magazines and other publications; techniques of market analysis, and marketing of articles written in course.

Repeat for Credit
N

Requisites
Prerequisite: MC 200 with a grade of C or better; majors have priority, others by department consent.

Typically Offered
Fall, Spring

MC 436 - Magazine Production

Credits: 3

The practical application of theory to writing, editing, graphic reproduction, layout and management of magazines.

Repeat for Credit
N

Requisites
Prerequisite: MC 403.

Typically Offered
Spring

MC 445 - Digital Brand Strategy

Credits: 3

Exploration of modern digital brand strategy, focusing on the latest approaches to digital advertising, the influence of AI, implementation, and evaluation.

Repeat for Credit
N

Typically Offered
Spring

MC 446 - Media Planning

Credits: 3

Builds skills in creating and executing a media plan according to advertising/public relations business goals. Develops skills in multi-media strategy - digital, mobile, social media, tv, audio streaming, radio and print media - based on research and industry trends. Uses simulation software and covers up-to-date digital tools in media planning.

Repeat for Credit
N

Requisites
Prerequisite: MC 120 or MC 180 with a grade of C or better

Typically Offered
Fall, Spring, Summer

MC 451 - Health Communication

Credits: 3

Developing strategy and messages in health communication campaigns.

Repeat for Credit
N

Requisites
Recommended Prerequisite: Sophomore standing or consent of instructor.

Typically Offered
Fall, Spring, Summer

MC 466 - Media Law and Ethics

Credits: 3

A study of the legal and ethical issues relating to media, strategic communications and personal media use. Emphasis on defamation, privacy, copyright, administrative controls and other legal areas. Includes a study of ethics in the media, perfect and imperfect ethical duties, and situational ethical decision making.

Repeat for Credit
N

Requisites
Prerequisite: Junior or instructor permission.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

MC 469 - Drone Photography and Video

Credits: 3

Techniques and procedures to use a Small Unmanned Ariel System (Drone) to acquire and produce video and photographic data that can be used for storytelling, advertising, short film, public relation and other media related analyses.

Repeat for Credit
N

Requisites
Prerequisite or Corequisite: UAS 115, Junior standing.

Typically Offered
Fall, Spring, Summer

MC 470 - Account Management

Credits: 3

Examines the role of account managers in modern advertising agencies.

Repeat for Credit
N

Requisites
Prerequisite: MC 221 or MC 280 with a C or better is recommended.

Typically Offered
Fall, Spring, Summer

MC 471 - Advanced Production

Credits: 3

Emphasis on aesthetics of audio and video writing, producing, directing, sound recording, lighting, camera work, editing, mixing, and distribution.

Note
Field and studio assignments.

Repeat for Credit
N

Requisites
Prerequisite: MC 331 or MC 406 with grade of C or better; majors have priority, others by department consent.

Typically Offered
Fall, Spring

MC 472 - Multiplatform News Production

Credits: 3

An advanced production course that emphasizes producing and directing techniques for news and other information-oriented programming.

Repeat for Credit
N

Requisites
Prerequisite: MC 406 with a grade of C or better or instructor permission. Majors have priority, others by department consent.

Typically Offered
Other

MC 474 - Social Media Management Simulation Lab

Credits: 2

Uses simulation software to build experience in running a social media campaign for a business. Develops skills in multiple areas of campaign management, including content creation, budget management, impact analysis, and decision-making.

Repeat for Credit
N

Requisites
Prerequisite: MC 370 Social Media Management & Strategy

Typically Offered
Fall, Spring

MC 475 - Military Strategic Communications

Credits: 3

An examination of the U.S. military in terms of operational and communication issues and its overall relationship with the media.

Repeat for Credit
N

Requisites
Prerequisite: MC 482 with a C or better or instructor consent.

Typically Offered
Fall

MC 477 - Travel and Tourism Strategic Communications

Credits: 3

The role and function of advertising and public relations in travel and tourism, focusing on the development of communication strategies and tactics.

Repeat for Credit
N

Requisites
Prerequisites: MC 120 or MC 180, or instructor consent.

Typically Offered
Fall

MC 478 - Entertainment and Strategic Communications

Credits: 3

Strategic communications in the entertainment industry and the role that practitioners play in the development of strategies, message development, and management

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Social Sciences

MC 479 - Strategic Communications and Sports

Credits: 3

Understanding the role public relations and strategic communication play in sports. Defining strategic communication, developing communication strategy, evaluating communication channels and messages. Provides students with public relations management tools.

Repeat for Credit
N

Typically Offered
Fall

MC 482 - Ideation, Strategy and Planning for Advertising and Public Relations

Credits: 3

Develops advertising and public relations skills in long-term planning, strategy, creativity, research, and meaningful evaluation and measurement. Examines concepts such as strategic planning, effective message creation, and project management.

Repeat for Credit
N

Requisites
Prerequisite: MC 280 with a grade of C or better.

Typically Offered
Fall, Spring

MC 485 - Media Practicum

Credits: 1

Practical work in student media operations of the school under supervision of an instructor, preparing students for work in the various media industries. Topics include newspaper, radio, yearbook, and video.

Note
One hour of credit per semester, which equals a total of 120 work hours supervised by the instructor. Enrollment requires a study and work plan approved by the instructor of record.

Repeat for Credit
Y

Requisites
Prerequisite: Instructor permission. Recommended Foundation Course: MC 200, MC 301, or MC 406

Typically Offered
Fall, Spring, Summer

MC 490 - Topics in Journalism and Mass Communications

Credits: 1-3

Selected topics in the study of mass communications practices and principles.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MC 491 - Mass Communication Internship

Credits: 1-3

Supervised professional experience; reports from student and supervisor required.

Repeat for Credit
Y

Requisites

Prerequisite: Consent of instructor and specified MC courses. Journalism: MC 301; Strategic Communications: MC 221 or MC 280; majors have priority, others by department consent.

Typically Offered
Fall, Spring, Summer

MC 498 - Media Portfolio

Credits: 3

Emphasis on enhancement of creative concepts, personal branding and portfolio development.

Repeat for Credit
N

Requisites
Prerequisite: MC 341 or instructor consent.

Typically Offered
Fall

MC 499 - Honors Project

Credits: 3

Open only to Arts & Sciences students who are active members on the University Honors Program.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MC 506 - Social media News Strategies

Credits: 3

Social media is an ever-changing and important part of journalism today. Learn strategies, tips and techniques to be job-ready for to maximize social media strategies, from both sides of the communications pathway, journalism and strategic communications.

Repeat for Credit
N

Typically Offered
Intersession

MC 541 - Media Audiences

Credits: 3

Explores the meaning of the term "audience" and how it has undergone significant historical shifts, evolving from simply viewers to now consumers, producers, participants and performers. Topics covered include audience history and theory, audience measurement, media fandom and audience subcultures.

Repeat for Credit
N

Typically Offered
Spring

MC 564 - History of Mass Communication

Credits: 3

Growth and development of media and media technology in the United States and their economic, political and social significance.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall, Spring

K-State 8
Historical Perspectives

MC 565 - Going Mobile!

Credits: 3

Builds knowledge of the rapidly increasing mobile media ecosystem; techniques to attract, engage and monetize mobile consumers; and ways to create learning platforms for community and organizational advocacy. Develop skills in campaign development, content creation, and impact evaluation in a mobile media context.

Repeat for Credit
N

Requisites
Prerequisite: CC 410

Typically Offered
Fall, Spring

MC 573 - Ethics in Mass Communication

Credits: 3

Making ethical decisions in mass media fields and the principles on which those decisions are based.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

MC 576 - Mass Communications and Political Campaigns

Credits: 3

The roles of journalism, advertising and public relations in political campaigns. Examines campaign communication strategies, staffing, and the role of political consultants. Analyzes how voter decision making is affected by mass communications and how voters develop attitudes about candidates and issues.

Repeat for Credit
N

Requisites
Prerequisite: Either MC 200, MC 211, MC 221, or MC 280.

Typically Offered
Other

MC 580 - Storytelling Across Platforms

Credits: 3

Reporting, writing, and production across multiple platforms. Critical analysis of media and engagement strategies for reporting in a digital world.

Repeat for Credit
N

Requisites
Prerequisite: MC 403, MC 406, MC 416 or MC 426 and senior standing.

Typically Offered
Fall, Spring

MC 581 - Campaigns in Advertising and Public Relations

Credits: 3

Implements skills learned in coursework, internships, job experiences, and elsewhere to experience all aspects of strategic communications planning in an applied environment with a client. Capstone course for the Advertising and Public Relations degree.

Repeat for Credit
N

Requisites
MC 396 and MC 482 with a grade of C or better.

Typically Offered
Fall, Spring

MC 585 - Media Management

Credits: 3

Issues, ethics and practices in managing media companies, with special emphasis on problems and practices, in converged media operations.

Note
Lecture

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall

K-State 8
Social Sciences

MC 589 - Issues in Mass Communication

Credits: 1-3

Advanced topics in mass communication practices and principles.

Repeat for Credit
Y

Typically Offered
Fall, Spring

MC 605 - Supervision of School Publications

Credits: 3

A methods course for those planning to teach secondary or community college journalism courses and advise high school or community college publications.

Repeat for Credit
N

Typically Offered
Summer

MC 612 - Diversity in Media

Credits: 3

Explores diversity issues in the media, including the nature of mass media's portrayal of gender, race, ethnicity, sexuality, sexual orientation and class in entertainment, news, advertising, public relations, and other media.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.

MC 623 - Communicating in Global Markets

Credits: 3

Issues associated with advertising in a global environment, including cultural impact, international media, regulation, ethics and digital media technologies.

Repeat for Credit
N

Requisites
Prerequisite: MC 120 OR MC 180, with a grade of C or better.

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives

MC 680 - Readings in Mass Communications

Credits: 1-3

Investigation of the literature of mass communications. Three significant books per credit hour with written analysis and oral presentation.

Repeat for Credit
Y

Requisites
Prerequisite: Senior or graduate standing and consent of supervisory instructor.

Typically Offered
Other

MC 682 - Seminar in Public Relations

Credits: 3

Contemporary topics in public relations practice, theory, and research.

Repeat for Credit
Y

Requisites
Prerequisite: MC 280, MC 482, MC 502 with grades of C or better.

Typically Offered
Other

MC 683 - Reputation Management

Credits: 3

Managing the public perception of organizations from the standpoint of preparing for issues and unforeseen emergencies that can potentially disrupt the relationship between organizations and the publics they serve.

Repeat for Credit
N

Requisites
Recommended Prerequisites: MC 482.

Typically Offered
Fall, Spring, Summer

MC 690 - Problems in Mass Communications

Credits: 1-4

Problems in Mass Communications

Repeat for Credit
Y

Requisites
Prerequisite: Background of courses needed for problem undertaken.

Typically Offered
Other

MC 701 - Proseminar in Mass Communication

Credits: 1

Introduction to advanced study in mass communication with special emphasis on requirements for obtaining the master of science degree.

Repeat for Credit
N

Typically Offered
Fall

MC 710 - History of Mass Communications

Credits: 3

Growth and development of the news media and mass communication media and systems in the United States and their economic, political, and social significance.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing, or instructor permission with a 2.5 GPA and completion of a United States history course.

Typically Offered
Fall

MC 712 - Environmental Communications

Credits: 3

Combines theoretical discussions with practical experience regarding communications about environmental issues and provides introduction to natural and applied science topics related to the communications plan.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing.

Typically Offered
Spring-Even Years

Cross-listed
AGCOM 712

MC 720 - Ethics in Mass Communications

Credits: 3

Moral analysis, argument, and decision-making by the mass communicator.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing, or instructor permission with a 2.5 GPA and completion of a philosophy course.

Typically Offered
Fall, Spring

MC 725 - International Communications

Credits: 3

Comparative study of world media systems and the role of mass communications in national development.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing, or instructor permission with a 2.5 GPA.

Typically Offered
Fall

MC 730 - Seminar in Issues of the Media

Credits: 3

A study of philosophical and technological advances in mass communications with emphasis on projected patterns of future growth and development.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing or instructor permission with a 2.5 GPA.

Typically Offered
Other

MC 740 - Colloquium in Mass Communications

Credits: 1-3

Discussion of selected topics in mass communications research and practice.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing or instructor permission.

Typically Offered
Other

MC 745 - Seminar in Mass Communication Law

Credits: 3

Analysis of mass communication freedoms and limitations in such areas as defamation, privacy, copyright, censorship, obscenity, and advertising and electronic media regulation.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Spring

MC 750 - Strategic Health Communication

Credits: 3

The role of effective communication through mass media and other communication strategies in health promotion and behavior change. Includes the theories and strategies used to promote public health messages, services, or products for multicultural audiences, with a focus on human, environment and animal health. Legal, ethical issues and gender issues in health communication will be given special attention.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing, or instructor permission with a 2.5 GPA.

Typically Offered
Spring

MC 760 - Issues, Risk, and Reputation

Credits: 3

Promotes understanding of strategic communication and media as tools to prepare for, respond to, and recover from threats to organizational and brand reputation.

Note
Lecture

Repeat for Credit
N

Requisites

Prerequisite: Graduate standing, or instructor permission.

Typically Offered
Fall

MC 765 - Communication Theory

Credits: 3

An examination of major communication theories as they relate to mass communications.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing, or instructor permission with 2.5 GPA.

Typically Offered
Fall

MC 770 - Mass Communication Practicum

Credits: 1-4

Supervised practical work in professional mass communications settings, including laboratory investigation, field work, internships, and applied workplace research.

Note
Instructor consent required.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MC 780 - Research Methods in Mass Communications

Credits: 3

Survey of research methods used in the study of the mass media.

Repeat for Credit
N

Requisites
Prerequisite: For graduate students.

Typically Offered
Other

MC 782 - Strategic Communications Management

Credits: 3

Study of various forms of communication management and strategies that further the objectives of an organization, including organizational communication, marketing communication, and public relations.

Repeat for Credit
N

Typically Offered
Fall

MC 799 - Independent Study in Mass Communication

Credits: 1-3

Supervised independent study in mass communication. Requires contractual agreement between student and professor, specifying content, meeting times, and credits to be awarded.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing, instructor consent.

Typically Offered
Fall, Spring, Summer

MC 801 - Advanced Research Methods: Qualitative

Credits: 3

Introduction to qualitative methods, analysis, interpretation, and writing in media-related fields, and how qualitative inquiry contributes to theory construction in mass communication.

Repeat for Credit
N

Requisites
Prerequisite: Graduate Standing.

Typically Offered
Fall

MC 820 - Digital Media Audiences and Analytics

Credits: 3

Theories and concepts related to digital audiences in mass communication, content strategies, and how media audiences are formed, analyzed, and measured in the digital age.

Repeat for Credit
N

Typically Offered
Spring

MC 830 - Media and Community Engagement

Credits: 3

Explores the role of media in increasing civic engagement and public participation, enabling the exchange of useful information, and fostering social connectivity to strengthen citizen agency and the overall democratic process.

Repeat for Credit
N

Typically Offered
Spring

MC 840 - Social Media Data Visualization

Credits: 3

Familiarizes students with social-scientific methods for large-scale social-media data analysis and visualization, including the application of relevant user and concept networks, content categorizations, and sentiment analysis. In addition, the use of germane software in emerging and digital media research is developed.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing or instructor permission.

Typically Offered
Fall

MC 850 - Applied Research in Mass Media

Credits: 3

Study and application of mass media research, its literature, and methodology.

Repeat for Credit
Y

Requisites
Prerequisite: MC 780.

Typically Offered
Other

MC 899 - Research in Mass Communications

Credits: 1-18

Research in Mass Communications

Note
Thesis/report credit.

Repeat for Credit
Y

Requisites
Prerequisite: Sufficient training to carry on the line of research undertaken.

Typically Offered
Other

ME 101 - Introduction to Mechanical Engineering

Credits: 2

Introduction to the mechanical engineering curriculum and profession. Orientation for successful transition of new students to college life. Engineering approach to problem solving and computer use in all areas of mechanical engineering. Exchange of information regarding academic, technical, social, ethical, and professional matters between students, faculty, and practicing professionals.

Note

Must be taken during the student's first eligible fall or spring semester in mechanical engineering.

Two hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent enrollment: MATH 220.

Typically Offered
Fall, Spring

ME 212 - Engineering Graphics

Credits: 2

Technical sketching, study of basic principles of projective geometry, multiview drawings, pictorials, reading and interpreting drawings, CAD, sectioning, dimensioning.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Pre/Corequisite: MATH 220 - Calculus I OR MATH 205 - General Calculus Recommended Prerequisite: Plane geometry.

Typically Offered
Fall, Spring

ME 310 - Elements of Thermodynamics

Credits: 2

Properties of pure substances. The first law of thermodynamics for open and closed systems. A brief introduction to the second law of thermodynamics.

Note
For Civil and Environmental Engineering Majors

Repeat for Credit
N

Requisites
Prerequisite: PHYS 213, MATH 221

Typically Offered
Fall, Spring

ME 312 - Advanced Engineering Graphics

Credits: 3

Advanced 3D CAD features and solid modeling techniques including an introduction to sheet metals, multi-body parts, weldments, etc. Advanced SolidWorks features such as creating configurations from other configurations, deformed features, surfacing and Macros will be introduced.

Repeat for Credit
N

Requisites
Prerequisite: ME 212

Typically Offered
Summer

ME 390 - Topics in Mechanical Engineering

Credits: 1-18

Topics selected in consultation with instructor. Intended for interdisciplinary studies or innovative studies in mechanical engineering.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

ME 400 - Computer Applications in Mechanical Engineering

Credits: 3

The development and application of computer techniques to the problems of design and analysis in mechanical engineering, including computer programming (abstraction and problem solving; algorithms; control structures; input/output; functions; arrays and array processing).

Note
Two hours lecture a week and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent: MATH 340.

Typically Offered
Fall, Spring

ME 497 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research projects.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ME 499 - Honors Research in Mechanical Engineering

Credits: 1-18

Individual research problem selected with approval of faculty advisor. Open to students in the College of Engineering honors program. A report is presented orally and in writing during the last semester.

Repeat for Credit
Y

Typically Offered
Fall, Spring

ME 500 - Robotics Programming and Design

Credits: 3

Application of mechanical engineering design and embedded programming techniques to design, build, and control a robotic system. Focus on robotic kinematics, differential motion, and trajectory planning to support the programming and design of a 3-axis pick and place machine. Robotic theory will be implemented using C++ deployed on an embedded system with the goal of implementing a complete and functional pick and place system.

Repeat for Credit
N

Requisites
Prerequisite: (ME 400 or ECE 241)

Typically Offered
Fall

ME 512 - Dynamics

Credits: 3

Vector treatment of kinematics, Newton's Laws, work and energy, impulse and momentum, with applications to problems of particle and rigid body motion.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CE 333. Prerequisite or concurrent: MATH 340.

Typically Offered
Fall, Spring, Summer

ME 513 - Thermodynamics I

Credits: 3

Properties of the pure substance. The first and second laws of thermodynamics. Gas mixtures and psychrometry.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 213; MATH 221.

Typically Offered
Fall, Spring, Summer

ME 519 - Electrical Circuits for Mechanical and Nuclear Engineering

Credits: 3

Analysis, design, construction, and application of electric and electronic circuits using analytic tools, fundamentals of common components, instrumentation, and computer-based tools.

Note
Three hour of lecture per week ending after week 10. Three hours of lab per week for the entire semester.

Repeat for Credit
N

Requisites
Prerequisites: PHYS 214, MATH 340, and MATH 551.

Typically Offered
Fall, Spring

ME 523 - Thermodynamics II

Credits: 3

Continuation of Thermodynamics I. Energy analysis, thermodynamic cycles, generalized thermodynamic relations, and reactive systems.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ME 513.

Typically Offered
Fall, Spring

ME 532 - Experimental Strength of Materials

Credits: 3

The experimental investigation of engineering materials used in the fabrication of products including metals, polymers, ceramics, composites, and elastomers. Provides basic knowledge in material science and inherit material properties such as elastic modulus, yield strength, toughness, etc., so students can solve real engineering problems and design engineering structures/systems.

Note
Two hours of lecture per week. One three hour lab per week.

Repeat for Credit
N

Requisites
Prerequisite: CHE 354, CHE 355, CE 533

Typically Offered
Spring

ME 533 - Machine Design I

Credits: 3

Introduction to the design and analysis of machine elements. Emphasis on materials, loads, stress, strain, deflection, failure theories, and finite element analysis. Applications include design and analysis of shafts, gears, and fasteners, weldments, springs, bearings.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: CE 533, ME 212 and ME 512.

Typically Offered
Fall, Spring

ME 535 - Measurement and Instrumentation Laboratory

Credits: 3

Theory and application of mechanical engineering measurements, instrumentation, and computer-based data acquisition.

Note
One hour recitation and six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ME 513 and (ECE 519 or ME 519)

Typically Offered

Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

ME 543 - Intermediate Mechanics of Materials

Credits: 3

Fundamental principles of mechanics and its application to design and analysis of engineering structures. Topics covered include stress and strain, elastic and inelastic properties of materials, composite structures, unsymmetric bending, thin-walled structures and energy methods in structural analysis.

Repeat for Credit
N

Requisites
Prerequisite: CE 533

Typically Offered
Fall

ME 563 - Machine Design II

Credits: 3

Design and analysis of machine elements. Applications include design and analysis of bearings, gears, shafts, clutches, brakes, belt and chain drives, and hydraulic fluid power.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ME 533.

Typically Offered
Fall, Spring

ME 570 - Control of Mechanical Systems I

Credits: 4

Introduction to modeling and control of dynamic systems encountered by Mechanical Engineers. Topics include basic linear systems modeling and analysis; feedback control; time response and stability of dynamic systems; introduction to root locus and frequency response design.

Note
Three hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 340, ME 400, and ME 512.
Prerequisite or concurrent enrollment: ME 535.

Typically Offered
Fall, Spring

ME 571 - Fluid Mechanics

Credits: 3

Physical properties; fluid statics; dynamics of ideal and real fluids (for incompressible and compressible flow); impulse and momentum; laws of similitude; dimensional analysis; flow in pipes; flow in open channels; flow about immersed objects.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ME 512 or CE 530, and MATH 222.
Prerequisite or concurrent: ME 513 or ME 310

Typically Offered
Fall, Spring, Summer

ME 573 - Heat Transfer

Credits: 3

Fundamentals of conduction, convection, and radiation; principles of heat exchanger design and dimensional analysis.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ME 400, ME 571, MATH 340.

Typically Offered
Fall, Spring

ME 574 - Interdisciplinary Industrial Design Projects I

Credits: 3

Introduction to design theory, project management, team dynamics and socio-economic context of design, etc.; Application of design principles, engineering analysis and experimental methods to an interdisciplinary design project involving design, analysis, fabrication and testing. Discussion of ethics, technical/professional societies, and engineering licensing.

Repeat for Credit
N

Requisites
Prerequisite: ME 535, ME 533, ME 571.
Prerequisite or concurrent enrollment: ENGL 200, or instructor approval.

Typically Offered
Fall, Spring

ME 575 - Mechanical Engineering Capstone Design

Credits: 3

In-depth application of design principles, engineering analyses and experimental methods to an industrial project addressing design, analysis, constraints, standards, fabrication, and testing.

Repeat for Credit
N

Requisites
Prerequisite: ME 574 or instructor permission.

Typically Offered
Fall, Spring

ME 610 - Finite Element Applications in Mechanical Engineering

Credits: 3

The application of the finite element method to the solution of engineering problems. Topics include introductions to the methods, linear elastic stress analysis, thermal analysis, and modeling limitations and errors. Commercial computer codes are used in the applications.

Repeat for Credit
N

Requisites
Prerequisite: CE 533.

Typically Offered
Fall, Spring

ME 615 - Applications in Mechatronics

Credits: 3

Application of Mechanical and Electronic engineering to design. Microcontrollers; sensors; analog-to-digital signal conversion; DC motor operation and pulse with modulation; drive train configuration; embedded C programming; competition at Engineering Open House.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ME 400 or ECE 431. Corequisite: ME 535 (not required if ECE 431 is taken).

Typically Offered
Spring

ME 620 - Internal Combustion Engines

Credits: 3

Application of principles of thermodynamics, fluid mechanics, and chemistry, kinematics, and heat transfer to internal combustion engine processes. Performance and design characteristics of internal combustion engines.

Note
Three hours recitation a week.

Repeat for Credit

N

Requisites
Prerequisite: ME 523.

Typically Offered
Fall

ME 622 - Indoor Environmental Engineering

Credits: 3

Ventilation, heating and cooling system design for buildings. Application of thermodynamic, heat transfer, and fluid mechanics principles for determination of building heating and cooling loads. Determination of ventilation requirements. Sizing, design and integration of environmental control systems.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ME 571.

Typically Offered
Spring

ME 626 - Introduction to Micro-Electromechanical Systems

Credits: 3

MEMS (micro-electromechanical systems) adapt the fabrication techniques and materials of semiconductor IC (integrated circuits) chips to make mechanical components, like cantilever beams, hinges, micromotors, micromirrors and microfluidic chips. In this course, the fabrication, design, and application of MEMS will be covered. Students will gain the knowledge of MEMS that combines interdisciplinary subjects of mechanical, electrical, and chemical engineering and material sciences.

Note
A student may take either ME 626 or ME 826 for credit, but not both.

Repeat for Credit
N

Typically Offered
Fall

ME 627 - Introduction to Biomedical Micro-Electromechanical Systems

Credits: 3

BioMEMS and microfluidics handle minute amount of liquids (microliter to picoliter) and bio-objects (DNA, protein, and cell). The course will cover (1) unique sciences of microfluidics, (2) liquid and bio-object manipulating principles, (3) design and manufacturing of microfluidic and biosensing devices, and (4) application in in vitro (out of body) diagnosis, 3D bioprinting, origami, and tissue engineering.

Note
A student may take either ME 627 or ME 827 for credit, but not both.

Repeat for Credit
N

Typically Offered
Spring

ME 628 - Aerodynamics

Credits: 3

A general introduction to aerodynamics including the analysis of lift, drag, thrust, and performance for subsonic aircraft, and the application of aerodynamic principles to design.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ME 571, MATH 340.

Typically Offered
Fall

ME 631 - Aircraft Propulsion

Credits: 3

Mechanics and thermodynamics of aircraft propulsion

systems; gas turbine aircraft engines; applied compressible flow; performance and design of propulsion systems.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ME 523, 571, MATH 340.

Typically Offered
Spring

ME 633 - Thermodynamics of Modern Power Production

Credits: 3

The first and second law analysis of modern stationary power systems using fossil, nuclear, and renewable energy sources. Component and system design, such as cycle design, load factor, and auxiliaries are considered in conjuction with their costs.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ME 523.

Typically Offered
Fall

ME 640 - Control of Mechanical Systems II

Credits: 3

Design and analysis of control systems. Topics include linear and nonlinear systems modeling; parameter estimation/system identification; steady state errors; advanced root locus and frequency response design; controller implementation.

Note
Two hours lecture and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ME 570 and MATH 551.

Typically Offered
Fall

ME 651 - Introduction to Composites

Credits: 3

Design, fabrication and testing of various composite materials. Analysis of mechanical properties of laminated composites.

Note
Two hours recitation and 3 hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CE 533 and senior standing in engineering.

Typically Offered
Fall

ME 656 - Mechanical Vibrations

Credits: 3

A general consideration for the formation and analysis of free and forced vibration of mechanical systems of single and mulitple degrees of freedom.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ME 512 and MATH 340.

Typically Offered
Spring

ME 661 - Introduction to Nanoscience and Nanotechnology

Credits: 3

This interdisciplinary course will cover basic areas of

nanotechnology, which includes synthesis of various nanomaterials (0D, 1D and 2D nanostructure), mechanical property assessment (hardness, modulus, yield strength measurements), energy generation (solar energy, thermoelectrics and energy generation from vibrations), 3-D printing of nanocomposites and energy storage.

Note
This course is designed for final year senior and/ or graduate students interested in the areas of experimental nanoscale science and engineering.

Repeat for Credit
N

Requisites
Prerequisite: CHE354, CHE355, ME 533, ME 573

Typically Offered
Spring

ME 699 - Problems in Mechanical Engineering

Credits: 1-18

Problems in Mechanical Engineering

Repeat for Credit
Y

Requisites
Prerequisite: Approval of department head.

Typically Offered
Fall, Spring, Summer

ME 701 - Development of Computer Applications In Mechanical Engineering

Credits: 3

Nature of design, graphical user interface development to support computer-aided design, algorithms and computer graphics in computer applications, feature-based design, applications to design problems.

Repeat for Credit
N

Requisites
Prerequisite: ME 400.

Typically Offered
Fall

ME 710 - Intermediate Topics in Interdisciplinary Systems Analysis

Credits: 1-3

Analyze complex, interdisciplinary systems using the systems thinking framework. Model the systems using narrative and visual tools for systems thinking. Systems analyzed include engineering systems and may include economic, and/or social elements.

Repeat for Credit
Y

Requisites
Co- Req: Senior or graduate standing

Typically Offered
On sufficient demand

ME 711 - Interdisciplinary Seminar

Credits: 0-3

The interdisciplinary seminar creates an opportunity to learn from other interdisciplinary researchers, form interdisciplinary research teams, and engage in interdisciplinary discussions. Topics include interdisciplinary research and collaboration, and professional development.

Repeat for Credit
Y

Requisites
Co-Req: Senior or graduate standing, or instructor permission

Typically Offered
On sufficient demand

ME 716 - Intermediate Dynamics

Credits: 3

General vector principles of the dynamics of particles and rigid bodies; applications to orbital calculations, gyrodynamics, and rocket performance; introduction to the energy methods of advanced dynamics.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ME 512, MATH 340.

Typically Offered
Spring

ME 720 - Intermediate Fluid Mechanics

Credits: 3

A continuation of ME 571 in the study of general topics in fluid mechanics. Conservation of mass and momentum principles with particular emphasis on analysis of inviscid (potential) flows, compressible flows, and more advanced viscous flows including boundary layers. Numerous applications utilizing numerical methods.

Repeat for Credit
N

Requisites
Prerequisite: ME 571, MATH 340.

Typically Offered
Fall

ME 721 - Thermal Systems Design

Credits: 3

Thermal systems design including economics, simulation, and optimization. Includes heating, ventilating and air conditioning design and control.

Repeat for Credit
N

Requisites
Prerequisite: ME 573.

Typically Offered
Fall

ME 722 - Human Thermal Engineering

Credits: 3

Application of thermodynamic, heat transfer, and fluid mechanics principles of the thermal analysis of the human body. Mathematical analysis and computer modeling of human response to the thermal environment. Evaluation of heat stress and cold stress. Protection from heat and cold. Requirements for thermal comfort and impact on human performance.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ME 573.

Typically Offered
Fall-Odd Years

ME 728 - Computer Control of ElectroMechanical Systems

Credits: 3

Discrete modeling and analysis of dynamic physical systems in mechanical engineering. Sampling and data conversion and reconstruction. Real time implementation of control on a computer. Digital controller design and implementation. Laboratory exercises in control applications and design.

Note
Two hours of recitation and three hours of laboratory per week.

Repeat for Credit
N

Requisites
Prerequisite: ME 570.

Typically Offered
Spring

ME 730 - Control Systems Analysis and Design

Credits: 3

Use of classical analysis techniques for control system compensation. State space-control theory fundamentals are presented in addition to an introductory treatment of several

major systems areas.

Repeat for Credit
N

Requisites
Prerequisite: ECE 530 or ME 640.

Typically Offered
Spring

Cross-listed
ECE 730

ME 738 - Experimental Stress Analysis

Credits: 3

Experimental methods of investigating stress distributions. Photoelastic models, photoelastic coatings, brittle coatings, and resistance strain gauges applied to static and dynamic problems.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite or concurrent: CE 533.

Typically Offered
Fall-Even Years

ME 760 - Engineering Analysis I

Credits: 3

Methods of analysis and solution of problems selected from various branches of engineering. Topics typically include vector algebra, vector spaces, linear algebra and matrices, vector calculus, line, surface and volume integrals, and ordinary differential equations for engineering applications.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 340 and senior standing.

Typically Offered
Fall

ME 773 - Intermediate Heat Transfer

Credits: 3

Conduction, convection and radiation, mass transfer, phase change, heat exchangers, introductory numerical methods.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: ME 573.

Typically Offered
Spring

ME 777 - Monte Carlo Methods

Credits: 3

The objective of this course is to explore various methods of Monte Carlo for solving direct and inverse problems in engineering. The course covers probability distributions; laws of large numbers and Central Limit Theorem; pseudo random number generation; sampling, scoring, and precision; variance reduction procedures; Markov chain Monte Carlo; inverse Monte Carlo; solution of linear operator equations; particle transport simulation.

Repeat for Credit
N

Requisites
Prerequisite: MATH 340 or equivalent and knowledge of a programming language.

Typically Offered
Spring-Even Years

ME 800 - MNE Graduate Seminar/Research Paper

Credits: 0-18

Presentation(oral and written) and discussion of progress in research. Credit hours can be earned by preparing and/or

presenting publication quality papers. Topics may be drawn from any current research area in mechanical and nuclear engineering.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing in mechanical and nuclear engineering.

Typically Offered
Fall, Spring

ME 802 - Advanced Mechanics of Materials and Applied Elasticity

Credits: 3

Two- and three-dimensional deformation analysis, equilibrium, and elastic constitutive laws. Stress-strain transformations between coordinate systems. Governing equations of elasticity. Advanced topics in bending, shearing, torsion and combined loads, with applications to engineering problems.

Note
Three hous recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: CE 533.

Typically Offered
Fall-Even Years

Cross-listed
CE 802

ME 811 - Thermodynamic Analysis

Credits: 3

Basic considerations of the three laws of equilibrium thermodynamics. Availability analysis with applications including multicomponent systems.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ME 523, ME 571, MATH 240.

Typically Offered
Spring-Even Years

ME 820 - Intermediate Topics in Thermal and Fluid Mechanics

Credits: 0-18

Topics may include combustion, direct energy conversion, modeling and design of internal combustion engines, nonequilibrium multiphase and multicomponent systems, refrigeration, cryogenics, stability and turbulence.

Repeat for Credit
Y

Requisites
Prerequisite: ME 720 or ME 773.

Typically Offered
On sufficient demand

ME 824 - Computational Fluid Dynamics

Credits: 3

The course introduces basic theories and algorithms for numerical simulations, and uses them to solve both model problems and classical fluid mechanics problems computationally.

Repeat for Credit
N

Requisites
Prerequisite: ME 720

Typically Offered
Spring

ME 826 - Intermediate Micro-Electromechanical Systems

Credits: 3

MEMS (micro-electromechanical systems) adapt the fabrication techniques and materials of semiconductor IC

(integrated circuits) chips to make mechanical components, like cantilever beams, hinges, micromotors, micromirrors and microfluidic chips. In this course, the fabrication, design, and application of MEMS will be covered. Students will gain the knowledge of MEMS that combines interdisciplinary subjects of mechanical, electrical, and chemical engineering and material sciences. Advanced applications of MEMS are covered.

Note
A student may take either ME 626 or ME 826 for credit, but not both.

Repeat for Credit
N

Typically Offered
Fall

ME 827 - Intermediate Biomedical Micro-Electromechanical Systems

Credits: 3

BioMEMS and microfluidics handle minute amount of liquids (microliter to picoliter) and bio-objects (DNA, protein, and cell). The course will cover (1) unique sciences of microfluidics, (2) liquid and bio-object manipulating principles, (3) design and manufacturing of microfluidic and biosensing devices, and (4) application in in vitro (out of body) diagnosis, 3D bioprinting, origami, and tissue engineering. Advanced applications of BioMEMS are covered.

Note
A student may take either ME 627 or ME 827 for credit, but not both.

Repeat for Credit
N

Typically Offered
Spring

ME 830 - Intermediate Topics in Automatic Controls

Credits: 1-18

Topics may include analysis and design of nonlinear, adaptive, optimal, digitals or stochastic control systems and the applications of intermediate control and stability theory.

Repeat for Credit
Y

Requisites
Prerequisite: ME 730 or ECE 730 or consent of instructor.

Typically Offered
On sufficient demand

ME 831 - Boundary Layer Theory

Credits: 3

The development and solution of various laminar boundary layer problems involving momentum, heat, and mass transfer for a compressible viscous fluid.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ME 573.

Typically Offered
Fall-Even Years

ME 836 - Introduction to Fracture Mechanics

Credits: 3

This course provides an introduction to fracture mechanics concepts and applications. Topics include the asymptotic solution for stress at a crack tip, energy balance and crack propagation, computing stress intensity factors, fatigue crack growth, fracture of concrete, applications and current topics.

Repeat for Credit
Y

Requisites
Prerequisite: ME 802 or CE 802.

Typically Offered
Fall-Odd Years

ME 840 - Intermediate Topics in Solid Mechanics and Machine Design

Credits: 1-18

Topics may include intermediate elasticity, plasticity, tribology, probabilistic machine design, robotics, computational dynamics and nonlinear mechanics.

Repeat for Credit
Y

Requisites
Prerequisite: ME 716 or ME 802 or CE 802.

Typically Offered
On sufficient demand

ME 846 - Vibrations of Continuous Media

Credits: 3

Basic mathematical and physical descriptions for wave phenomena in continuous media, with emphasis on propagations of mechanical disturbance in linearly elastic solids. Other selected topics in wave dynamics, including acoustics, water waves, nonlinear phenomena, will be discussed depending on students' interest.

Note
Three hours of recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ME 802 or CE 802.

Typically Offered
Fall-Odd Years

ME 860 - Engineering Analysis II

Credits: 3

Continuation of Engineering Analysis I to cover more methods of analysis and solution important for engineering applications. Topics typically include complex variable theory, differential operators and orthogonal functions, Sturm-Liouville theory, Fourier series and Fourier transforms, and partial differential equations for engineering applications.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ME 760 or consent of instructor.

Typically Offered
Spring

ME 862 - Finite Elements

Credits: 3

The foundations of the finite element method using weighted residuals and variational methods. Element formulation, assembly and solution are covered in detail. Formulation for dynamic and nonlinear problems. Discussion of advanced topics. The student will develop a complete finite element program.

Repeat for Credit
Y

Requisites
Prerequisite: ME 760. Prerequisite or concurrent enrollment: ME 802 or CE 802.

Typically Offered
Spring

ME 871 - Mechanics of Composite Materials

Credits: 3

Topics include classification of composite materials, elasticity theory for anisotropic and in homogeneous materials, basic model for characterization of composite properties, laminated plate theory, textile composites, strength and criteria for composite failure, and fracture modes in composites.

Repeat for Credit
Y

Requisites
Prerequisite: ME 802 or CE 802.

Typically Offered
Spring-Odd Years

ME 898 - Master's Report

Credits: 1-18

Topics selected with approval of major professor and department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ME 899 - Master's Thesis

Credits: 1-18

Topics selected with approval of major professor and department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

ME 902 - Theory of Plasticity

Credits: 3

Foundations of plasticity. Vectorial and sensorial analysis. Coverage of pressure-dependent and pressure-independent materials. Hyper elasticity-Green elasticity. Deformation theory of plasticity. Flow theory of plasticity. Plastic work rate-equivalent strain. Classical yield criteria. Closed form solution of simple cases. Numerical solutions of more complex cases.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ME 802 or CE 802.

Typically Offered
Spring-Even Years

ME 910 - Computational Methods in Design

Credits: 0-18

Selected topics from optimal design, geometric modeling, and multi-physics finite element methods.

Repeat for Credit
Y

Typically Offered
Spring-Even Years

ME 920 - Advanced Topics in Thermal and Fluid Mechanics - Boltzmann Transport

Credits: 3

Non-Fourier heat transfer models used for microscale transport phenomena. Boltzmann integral methods for determining ion/neutron effects on metal material temperature.

Repeat for Credit
Y

Requisites
Prerequisite: ME 720 or ME 773.

Typically Offered
On sufficient demand

ME 921 - Thermal System Analysis

Credits: 3

Advanced study of steady-state and dynamic simulation of thermal systems; thermal systems optimization. Thermodynamic availability and probabilistics in thermal system design.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ME 721.

Typically Offered
Spring-Odd Years

ME 930 - Advanced Topics in Automatic Controls

Credits: 1-18

Topics may include analysis and design of nonlinear, adaptive, optimal, digital, or stochastic control systems and the application of advanced control and stability theory.

Repeat for Credit
Y

Requisites
Prerequisite: ME 640.

Typically Offered
Fall, Spring

ME 935 - Heat Conduction in Solids

Credits: 3

General differential equation of heat conduction and methods of solution for steady-state and transient heat conduction, periodic heat flow, and internal heat sources.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ME 573.

Typically Offered
Fall-Odd Years

ME 940 - Advanced Topics in Solid Mechanics and Machine Design

Credits: 1-18

Topics may include advanced elasticity, plasticity, tribology, probabilistic machine design, robotics, advanced and computational dynamics and nonlinear mechanics.

Repeat for Credit
Y

Requisites
Prerequisite: ME 802 or CE 802 or ME 716 or ME 846.

Typically Offered
On sufficient demand

ME 942 - Convection Heat Transfer

Credits: 3

Energy and momentum equations in convective heat transfer, laminar and turbulent thermal boundary layers, steady and nonsteady convection problems.

Note
Three hours recitation a week.

Requisites
Prerequisite: ME 573.

Typically Offered
Spring-Odd Years

ME 943 - Radiation Heat Transfer

Credits: 3

Basic theories of thermal radiation, shape factors; exact and approximate solutions of integral equations of radiation heat transfer between solid surfaces with absorbing or nonabsorbing medium.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: ME 573.

Typically Offered
Fall-Even Years

ME 947 - Boiling Heat Transfer

Credits: 3

Principles of boiling heat transfer and thermal hydraulics of two-phase flow; computational methods; design and analysis applications.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites

Prerequisite: ME 942

Typically Offered
Fall-Odd Years

ME 999 - Dissertation Research in Mechanical Engineering PhD Level

Credits: 1-18

Dissertation Research in Mechanical Engineering PhD Level

Repeat for Credit
Y

Requisites
Prerequisite: Approval of department head and major professor.

Typically Offered
Fall, Spring, Summer

MET 111 - Technical Graphics

Credits: 3

Introduction to applications in sketching and 2D computer-aided design applied to geometric development and engineering communication. Techniques are applied to produce finished drawings and schematics to National and international standards. Theory and applications of orthographic and auxiliary projection and pictorial drawing. Standards for symbols, section views, and dimensioning included.

Note
One hour lecture and four hours lab a week.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

MET 117 - Mechanical Modeling and Detailing

Credits: 3

Professional practices in the development and application of 3D part and assembly modeling for design and manufacturing. Preparation of 3D model for manufacturing data or production drawing. Development of tolerances versus cost, fit tolerances, and introductory geometric dimensioning and tolerancing (GD&T) specifications. Application of handbook data and spreadsheet computation to design detail development.

Note
One hour lecture and four hours lab a week.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

MET 121 - Manufacturing Methods

Credits: 3

Introduction to contemporary manufacturing processes and practices, including precision measurement and inspection, machining, forming, casting, and welding processes. Recitation and laboratory experience in manufacturing practices, including metrology and basic setup and operation of manufacturing equipment. Observation of applications in local industry.

Note
One hour lecture and four hours lab a week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

MET 125 - Computer-Numerical-Controlled Machine Processes

Credits: 2

Study and practice of basic CNC programming and machining operations.

Note

Six hours lab a week.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

MET 211 - Statics

Credits: 3

A study of forces and their effects on the bodies upon which they act.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Corequisite: PHYS 113.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

MET 230 - Automated Manufacturing Systems I

Credits: 3

A general survey of the various components and systems in automated manufacturing, including material handling, electropneumatic control, programmable logic control, robotics, tooling, inspection and quality control, CNC, and other production processes.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECET 100.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

MET 231 - Physical Materials and Metallurgy

Credits: 3

A broad view of materials used in industry, including structures of materials, how they react to stress and temperature, how the polyphase structures form, and how they are controlled to produce optimum properties. Students will examine through study and laboratory experimentation ferrous and nonferrous metals, polymers, composites, and ceramics.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

MET 240 - Industrial Robotics Laboratory

Credits: 2

An introduction to industrial robots emphasizing robot operation, programming, and integration with programmable logic controllers and other automation equipment.

Note
Four hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECET 335 or MET 230.

Typically Offered
Fall

MET 245 - Material Strength and Testing

Credits: 3

Calculations of material strength and deformation are complemented with principles and practice of mechanical testing including instrumentation and measurement in the areas of loads, stresses, deformations, thermal stresses, and other quantities.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: MET 211.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Natural and Physical Sciences

MET 252 - Fluid Power Technology

Credits: 3

Study, design, analysis, operation, maintenance, and applications of hydraulic and pneumatic power systems and components.

Note
Two hours lecture and two hours labs a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 150.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

MET 264 - Machine Design Technology I

Credits: 4

Introduction to application and selection of machine elements to design mechanical systems. Covers primary machine elements such as shafts and shaft components, screws and fasteners, welded joints, springs, bearings, gears, clutches and brakes.

Note
Three hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Corequisite: MET 245.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Historical Perspectives

MET 299 - Topics in Mechanical Engineering Technology

Credits: 1-18

Provides an opportunity for faculty to present mechanical engineering technology topics.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

MET 314 - Finite Element Analysis and Design Modeling

Credits: 3

Introduction to finite element analysis applied to mechanical design. Study and application of advanced computer-aided modeling techniques.

Note
One hour lecture and four hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: MET 117 and MET 245.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

MET 325 - Additive Manufacturing

Credits: 3

The course develops an understanding of additive manufacturing (AM) principles and applications combined with a problem-based learning project which develops design, manufacturing and maintenance skill sets for AM practitioners.

Note
Two hours lecture and three hours lab per week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

MET 333 - Advanced Material Science

Credits: 3

A continuation of MET 231 Physical Materials and Metallurgy. Emphasizes the understanding of material properties used to give various materials their function. Theory and laboratory work focus on controlling and testing material properties. Ferrous and non-ferrous metals, polymers and adhesives, composites, smart materials, effects of corrosion, failure analysis, and selection techniques for design.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: CHM 110 and CHM 111 and MET 231.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

MET 336 - Dynamics of Machines

Credits: 3

Velocities, accelerations, and forces in existing mechanisms to produce motions. Work, energy, impulse and momentum concepts in kinetics. Vibrations in machine parts.

Note
Three hour lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 220 and PHYS 113.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

MET 346 - Elements of Mechanisms

Credits: 3

Fundamental motion concepts of displacement, velocity, and acceleration are studied, as well as analytical and graphical analysis and synthesis of linkages, gear trains, cams, pulleys, and combinations of these elements.

Repeat for Credit
N

Requisites
Prerequisite: MET 117 and MET 246.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

MET 353 - Fluid Mechanics

Credits: 3

Fundamental concepts of fluid mechanics. Study of buoyancy, energy equation, viscosity, and flow measurement. Selected applications of fluid mechanics in civil and mechanical technologies. Computer-aided solution of problems in fluid mechanics.

Note
Two hours lecture and two hours labs a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 220, MET 252, and PHYS 113.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

MET 365 - Machine Design Technology II

Credits: 3

Continued study of design of mechanical elements and systems including engineering mechanics and materials, investigation of failure theories under static and variable loading, stress analysis, stress concentration, and deflections.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: MET 264.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

MET 381 - Quality Control

Credits: 3

An introductory course in quality concepts and techniques used in industry. Topics include fundamentals of statistics and probability, statistical process control charts, and quality improvement tools.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing or consent of instructor.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

MET 382 - Industrial Instrumentation and Controls

Credits: 3

An introduction to process control systems for industrial applications. Course topics include concepts and terminology, first- and second-order systems, measurement of motion, gauges and transducers, signal processing, and measurement of properties.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECET 304 or ECET 201.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

MET 410 - Managerial and Project Economics

Credits: 3

Economic analysis of problems as applied to managerial decision making. Students consider the economic viability of solutions in engineering and a variety of other kinds of projects common in technology-oriented businesses.

Repeat for Credit
N

Requisites
Prerequisite: MATH 100.

Typically Offered
Fall

Cross-listed
BUS 410

K-State 8
Social Sciences

MET 460 - Tool Design for Manufacturing

Credits: 3

Principles and practices involved in tool drawing and design concepts necessary for the manufacture of products. Emphasis on design of jigs and fixtures, gauging devices, dies, ease of operation, and methods of assembly. Production cost related to selection of parts and methods of production is stressed. Applied laboratory exercises illustrated through specific case studies.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: MET 117 and MET 125, and MET 346.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

MET 462 - Senior Design Project I

Credits: 1

Selection, definition, and analysis of a project supervised by faculty. Includes consideration of project parameters, trade-off studies, alternative solutions, and justification of selected solution. Completion and presentation of a written project proposal included.

Note
Two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing.
Corequisite: MET 365

Typically Offered
Fall

MET 464 - Senior Design Project II

Credits: 2

Development and implementation of project proposal submitted in MET 462. Construction, packaging, and testing of project culminating in a senior design project report which may include full documentation and performance specifications, functional description, theoretical analysis, schematics, cost analysis, parts list, drawings, etc. Project results will be presented orally to a select committee at the end of the course.

Note
Four hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: MET 462 and senior standing.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility

MET 471 - Thermodynamics and Heat Transfer

Credits: 4

This course emphasizes thermodynamic laws and equations and the use of tables and charts for properties of important fluids. Applications to systems used for producing, transforming, and applying heat and mechanical energy are also studied. Conduction, convection, and radiation heat transfer processes are investigated.

Note
Three hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 220, MET 252, and PHYS 113.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

MET 481 - Automated Manufacturing Systems II

Credits: 3

Covers systems for manufacturing operations including facilities, supplies, materials, procedures, and control. Topics include design, programming, feedback for manufacturing, production set-up, automated work cells, and decision issues.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: MET 230 or MET 382.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Global Issues and Perspectives

MET 490 - Industrial Work Internship

Credits: 1-18

The student will work as an intern with business and industry in mechanical engineering technology field. A report detailing duties performed and tasks accomplished is required at the end of the internship period.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing and consent of MET program coordinator.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

MET 499 - Advanced Topics in Mechanical Engineering Technology

Credits: 1-18

Provides an opportunity for faculty to present advanced mechanical engineering technology topics.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

MIS 366 - Introduction to Business Analytics and Information Systems

Credits: 3

A comprehensive view of organizational information systems required for obtaining and transforming data into business analytics and intelligence. Cases and hands-on exercises emphasize information systems usage in data acquisition, analysis, and presentation leading to effective organizational decision-making.

Note

Special section of MANGT 366 open to students considering a Management Information Systems (MIS) Major.

Demonstrate competence in use of computer spreadsheets.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

MIS 411 - Business Programming Applications

Credits: 3

Business-related object-oriented programming fundamentals used to enhance skills for problem solving and logical thinking. Focuses on class diagrams, and the utilization of programming languages for understanding and applying software development concepts.

Note
Prerequisite or consent of department head.

Repeat for Credit
N

Requisites
Prerequisite or concurrent: MANGT 366 or MIS 366

Typically Offered
Fall

MIS 422 - Business Database and SQL

Credits: 3

Examination of database theory, design, implementation and the value of data to an organization. Study of structured query languages (SQL) including the definition and creation of database objects, manipulation of data stores including entry, modification, removal and extraction, and database programming fundamentals relevant to business and data analytics.

Note
Prerequisite or consent of department head.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 366 or MIS 366

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

MIS 433 - ERP Project Planning and Implementation

Credits: 3

Applications of enterprise systems with emphasis on ERP systems configuration, business process integration and hands-on project management.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 366 or MIS 366.

Typically Offered
Spring

MIS 444 - Business Networks and Security

Credits: 3

Study of digital networks and security considering impact and value to business organizations. Coverage includes communications protocols and standards, hardware, software, network implementation and configuration; and security. Emphasis on hands-on network setup, configuration and testing.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 366 or MIS 366.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

MIS 490 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research projects.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MIS 495 - MIS Internship

Credits: 0-3

Eight weeks of applied Management Information Systems (MIS) experience designed to coordinate the interests of students and firms.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MIS 496 - Special Topics in MIS and Data Analytics

Credits: 1-6

Discussion and analysis of current and emerging issues in management information systems or data analytics, including topics related to new theory, new applications, and technology or data analytics practice.

Note
Permission of instructor

Repeat for Credit
Y

Typically Offered
On sufficient demand

MIS 555 - Cloud Computing with Business Programming Applications

Credits: 3

Advanced application of business-related programming fundamentals in cloud environments. Focuses on utilization of programming languages and mobile software development for creating solutions to data-intensive business problems in cloud environments.

Repeat for Credit
N

Requisites
Prerequisite: MIS 411 and either MIS 422 or MIS 667.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

MIS 566 - Systems Analysis and Design

Credits: 3

An in-depth study of systems analysis and design techniques viewing information systems as an integral component of organizational strategic planning. Emphasis on systems planning, project management, use of CASE tools, process and data modeling, quality and systems reengineering.

Repeat for Credit
N

Requisites
Prerequisite: MIS 411 and either MIS 422 or MIS 667.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

MIS 665 - Business Analytics and Data Mining

Credits: 3

In-depth study of a broad range of topics and techniques in

business intelligence (BI), data mining, and database marketing (DM). Emphasis on fundamentals of relational database management, data warehousing as a business practice, customer relationship management (CRM), customer segmentation, various data mining techniques, data visualization, business performance management, use of scorecard/dashboard, and advanced BI and data mining software tools.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 366 or MIS 366 or an equivalent introductory computing course.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

MIS 667 - Applications of Data Models in Business

Credits: 3

Implementation and management of extract, transform, load (ETL) processing and automation from a business perspective. Topics include design of data migration approaches, data cleaning techniques, and technologies used to move and distribute data between various database types including relational, non-relational, on-site and cloud. SQL, NoSQL and other technologies provide context and hands-on practice in data pipelines implementation and management.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 366 or MIS 366, an equivalent introductory computing course, or permission of instructor.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

MIS 670 - Social Media Analytics and Web Mining

Credits: 3

This course is an in-depth study of a broad range of topics and techniques in the areas of social media analytics, web mining and social network analysis. Emphasis is on fundamentals of data acquisition from the web and social media platforms, transformation of these unstructured data into structured format, advanced data processing techniques for analysis, business intelligence through web crawling, analysis of web and social media data using classification, clustering, and association techniques, sentiment analysis (or opinion mining) for business decisions, visualization of unstructured data, and social network analysis.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 366 or MIS 366 or an equivalent introductory computing course.

Typically Offered
Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

MIS 677 - Senior MIS Project

Credits: 3

Senior project. Students must demonstrate proficiency in the analysis, design and implementation of a business or data analytics project by creating a working prototype of a business application.

Note
Management Information Systems (MIS) Majors Only or consent of department head.

Repeat for Credit
N

Requisites
Prerequisite: MIS 555 and MIS 566.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

MIS 756 - Business Data Pipelines

Credits: 3

Implementation and management of extract, transform, load (ETL) processing and automation from a business perspective. Topics include design of data migration approaches, data cleaning techniques, and technologies used to move and distribute data between various database types including relational, non-relational, on-site and cloud. SQL, NoSQL and other technologies provide context and hands-on practice in data pipelines implementation and management.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 366 or MIS 366, an equivalent introductory computing course, or permission of instructor.

Typically Offered
On sufficient demand

K-State 8
Empirical and Quantitative Reasoning

MIS 797 - Topics: Information Technology and Data Analytics

Credits: 1-3

Discussion and analysis of contemporary issues in information technology, business analytics, trends, and emerging technology. Can include applications, relevant literature and research.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MIS 830 - Business Intelligence and Storytelling in Cloud Environments

Credits: 3

A practical exposure to information technology as it applies to business. Emphasis will be placed on problem-solving using spreadsheets, databases, and HTML based information systems.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate student standing.

Typically Offered
Fall

MKTG 250 - Introduction to Marketing

Credits: 3

A general study of marketing principles which lead to the development of marketing strategy. A review of environmental influences and key analytical tools used in formulating marketing plans. Product or service design, distribution, pricing, and promotional programs.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

MKTG 300 - Introduction to Digital Marketing

Credits: 3

Designed to teach students the basic fundamentals of digital marketing. Topics include digital marketing terminology, search engine marketing, search engine optimization, mobile digital marketing, social media marketing, technology integration, and marketing analytics.

Repeat for Credit
N

Requisites
Prerequisite: MKTG 250

Typically Offered
Fall, Spring, Summer

MKTG 302 - Brand Marketing

Credits: 3

Focuses on building and measuring brands as business strategy, as well as personal branding.

Repeat for Credit

N

Typically Offered
Spring

K-State 8
Social Sciences

MKTG 305 - Socially Responsible Marketing

Credits: 3

Ethical marketing practices in the U.S. and global economy. There is a brief introduction to business ethics, ethics within the marketing mix, ethics and the promotional mix and special topics in marketing ethics. It will include case studies to help build experience with real world domestic and global situations and increase critical thinking and problem-solving skills.

Repeat for Credit
N

Requisites
Prerequisite: MKTG 250

Typically Offered
Fall or Spring

MKTG 306 - Business to Business Marketing

Credits: 3

A study of the nature of the industrial marketplace, concentrating on those aspects that differentiate it from the consumer markets. The major topics include analysis of market needs, market segments, estimating market demand, organizational buying behavior, marketing channels, marketing strategy and mix for institutional customers, global marketing strategies, managing products and new product development, buyer/seller relationships, pricing strategies, and business marketing communications.

Repeat for Credit
N

Requisites
Prerequisite: MKTG 250.

Typically Offered
On sufficient demand

K-State 8
Social Sciences

MKTG 311 - Services Marketing

Credits: 3

An analysis of the unique marketing challenges faced by service organizations. Major topics include the unique characteristics of services, creating and positioning a service in the marketplace, distributing, promoting and pricing services. An evaluation of marketing strategies from the perspective of a service firm.

Repeat for Credit
N

Requisites
Prerequisite: MKTG 250.

Typically Offered
On sufficient demand

K-State 8
Social Sciences

MKTG 325 - International Marketing

Credits: 3

This course deals with the problems and perspectives of marketing across national boundaries. It also focuses on the tools and practices for structuring and controlling marketing programs related to overseas business. Emphasis is on the management of marketing functions in a global context. Topics include international trade organizations, international economic factors, foreign business customs, and the international marketing mix.

Repeat for Credit
N

Requisites
Prerequisite: MKTG 250

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Social Sciences

MKTG 326 - International Business

Credits: 3

This course provides students with an appreciation of the opportunities and unique challenges in international business, an understanding of the strategic and operational options available to an international firm, and managerial decision making abilities required to be successful abroad. The course examines strategic and operational issues involved in international business activity and how to best manage these issues.

Repeat for Credit
N

Requisites
Prerequisite: MANGT 220, MKTG 250.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Social Sciences

MKTG 440 - Entertainment Marketing

Credits: 3

Examines the entertainment industry using strategic marketing approaches to assess market opportunities, develop marketing strategies, and design implementation tactics.

Repeat for Credit
N

Requisites
Prerequisite: MKTG 250.

Typically Offered
Spring

K-State 8
Social Sciences

MKTG 450 - Consumer Behavior

Credits: 3

A study of the concepts, principles, and theories to understand, evaluate and predict consumer behavior. Explaining the behavior of consumers provides insight into ambiguous marketing situations. The course focuses on applying scientific methods to aid in marketing decision making. In addition, this course integrates current consumer research and theory, as well as current topics.

Repeat for Credit
N

Requisites
Prerequisite: MKTG 250.

Typically Offered
Fall, Spring, Summer

K-State 8
Human Diversity within the U.S.
Social Sciences

MKTG 480 - Marketing Analytics Fundamentals

Credits: 3

Students will develop an understanding of data collection, data analysis and data visualization in order to make strategic business decisions.

Repeat for Credit
N

Requisites
Prerequisite: MKTG 250, STAT 250 or equivalent.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

MKTG 490 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research projects.

Repeat for Credit
Y

Requisites
Prerequisite: MKTG 250, Consent of instructor.

Typically Offered
On sufficient demand

MKTG 495 - Marketing Internship

Credits: 0-3

Eight weeks of applied marketing business experience between junior and senior years designed to coordinate the interests of students and firms.

Repeat for Credit
Y

Requisites
Prerequisite: FINAN 450, MANGT 220, MKTG 250, and consent of Marketing department head.

Typically Offered
Fall, Spring, Summer

MKTG 496 - Special Topics in Marketing

Credits: 3

Discussion and analysis of current and emerging issues in marketing, including topics related to new theory, new applications, and the practice of marketing.

Repeat for Credit
Y

Typically Offered
Fall or Spring

MKTG 498 - Independent Study in Marketing

Credits: 0-18

Selected topics in marketing.

Repeat for Credit
Y

Requisites
Prerequisite: MKTG 250, Consent of instructor.

Typically Offered
On sufficient demand

MKTG 510 - Corporate Marketing Practicum

Credits: 3

For high GPA marketing students to gain additional marketing insight by working with a company in applying marketing concepts.

Repeat for Credit
N

Requisites
Prerequisite: MKTG 250, MKTG 300, consent of instructor

Typically Offered
Fall or Spring

MKTG 540 - Digital Content Strategy and Development

Credits: 3

Development of strategic communications plans for digital marketing, including content structure and development. Students will have the opportunity to incorporate industry certifications as the course will instruct students on the skills needed for the certification exams.

Repeat for Credit
N

Requisites
Prerequisite: MKTG 250, MKTG 300

Typically Offered
Fall, Spring

K-State 8
Social Sciences

MKTG 551 - Data Narratives and Visualization

Credits: 3

Students learn to interpret complex datasets and effectively communicate the analysis through visualization and storytelling. They learn these techniques with and without the use of dashboards and/or presentation software.

Repeat for Credit
N

Requisites
Prerequisite: MKTG 250, MKTG 300

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

MKTG 630 - Sports Marketing

Credits: 3

Covers the concepts, metrics, and techniques used to address the opportunities and challenges faced by marketers in the context of sports.

Repeat for Credit
N

Requisites
Prerequisite: MKTG 250.

Typically Offered
Fall, Spring

K-State 8
Social Sciences

MKTG 650 - Digital Marketing Analysis and Strategy

Credits: 3

Examines aspects of tracking, analyzing, and optimizing marketing efforts to achieve strategic objectives. It provides learners with an understanding of search engine marketing (SEM) and search engine optimization (SED), web analysis and tools, and social media platforms and analytics. Learners have an opportunity to earn industry certifications.

Repeat for Credit
N

Requisites
Prerequisite: MKTG 250, MKTG 300.

Typically Offered
Fall, Spring

K-State 8
Social Sciences

MKTG 653 - Applications of Marketing Analytics

Credits: 3

Marketing analytics focuses on applications of quantitative analysis to understand dynamic marketing phenomena. This course is a mixture of lectures on essential marketing concepts/econometrics/text mining, instructions on software program (Stata and R), and discussions of marketing cases to facilitate students' critical thinking and decision making leveraged by analytical ability. To facilitate learning statistical software programs, students will practice hands-on projects in the computer lab.

Learning outcomes are that students will be able to do the following:

- Choose correct quantitative analysis methodologies
- Learn data analysis software programs (Stata and R)
- Make strategic decisions based on data analysis and communicate marketing strategies

Repeat for Credit
Y

Requisites
Prerequisite: MKTG 250, STAT 250 or equivalent.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

MKTG 654 - Marketing Research

Credits: 3

Learn the essential techniques and tools for data collection, analysis, and interpretation, including survey and experimental design (A/B testing). Students will explore qualitative and quantitative methods, learn to utilize statistical software, and engage in hands-on projects to apply concepts in marketing contexts to make strategic data-driven decisions.

Repeat for Credit
N

Requisites
Prerequisite: MKTG 250, STAT 351.

Typically Offered
Fall or Spring

K-State 8
Empirical and Quantitative Reasoning

MKTG 690 - Marketing Strategy

Credits: 3

Analysis of marketing situations which lead to appropriate management of the marketing program's objectives. Capstone course integrates knowledge of marketing and other business management principles into marketing strategy, development, implementation, and control.

Note
Undergraduates must be business students admitted in a College Business Administration degree track (major).

Repeat for Credit
N

Requisites
Prerequisite: MKTG 250, MKTG 300, SALES 300 and senior standing.

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

MKTG 705 - Marketing Concepts and Research

Credits: 3

Presents marketing concepts and marketing research concepts at the graduate level. Emphasis is directed toward managerial strategy development using marketing theories and applied marketing research techniques.

Repeat for Credit
Y

Requisites
Prerequisite: Three hours of economics, three hours of statistics, and MATH 205 or MATH 220.

Typically Offered
Fall

MKTG 842 - Advanced Marketing Research

Credits: 3

Application of advanced research methods to help solve marketing problems. Intensive examination of experimental and survey designs, data collection methods, and selected multivariate analysis techniques are covered.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 351, MKTG 640, and MKTG 654.

Typically Offered
On sufficient demand

MKTG 844 - Advanced International Marketing

Credits: 3

This course is designed to develop the students' managerial decision making ability in international marketing. The course will focus on the internationalization process of firms, the unique issues in international marketing, and international marketing strategy. The course will integrate short lectures, class discussions, and case analysis to achieve its objectives.

Repeat for Credit
Y

Requisites
Prerequisite: MKTG 710.

Typically Offered
On sufficient demand

MKTG 860 - Advanced International Business

Credits: 3

This course is designed to introduce the student to the nature and scope of fundamental business skills requisite for a career in international business. A unified survey of the international aspects of accounting, finance, management, marketing and related subjects will be made that is useful to a manager in a global business enterprise. Emphasis will be placed on the identification, articulation and implementation of successful global strategies.

Repeat for Credit
N

Requisites
Prerequisite: ACCTG 710, ECON 815, FINAN 715, MANGT 720, MANGT 710, MIS 830, MKTG 705, and STAT 702 or enrollment in the MAcc program.

Typically Offered
On sufficient demand

MKTG 880 - Applied Marketing Analytics

Credits: 3

Business Intelligence is a systematic approach to harnessing customer data and competitive information to drive strategic business decision making. This course deals with how to collect and analyze business data to enhance quality of decision making in modern enterprises. Unlike courses based on data mining (inductive approach), this course will be largely based on regression techniques (deductive approach). The course will be based on lectures, case analysis, and hands on exercises to make students comfortable with powerful computing tools used for data analysis. The cases and exercises will be bundled with data which will be used to apply concepts learned in class to real business situations.

Repeat for Credit
N

Requisites
Prerequisite: Graduate student standing.

Typically Offered
Spring

MKTG 881 - Advanced Marketing Analytics

Credits: 3

Students will gain an understanding of econometric and statistical methods of analysis and their application to business problems. Through lectures and exercises, student will use software tools often used in business for data analysis. Students will also learn how to interpret and apply the results from the software in data analyses. Emphasis will be placed on the application of econometric and statistical methods of data analyses. Topics will include customer choice analysis, customer segmentation and targeting, customer lifetime value calculation, and forecasting.

Repeat for Credit
N

Requisites
Prerequisite: Graduate student standing.

Typically Offered
Fall

MKTG 891 - Special Topics in Marketing

Credits: 3

Investigation and discussion of a selected topic in marketing. One of the following five topics will be chosen for intensive study: (1) industrial marketing management, (2) advanced consumer behavior, (3) product policy, (4) financial aspects of marketing management, (5) marketing in the service sector.

Repeat for Credit
Y

Requisites
Prerequisite: MKTG 705 or 6 hours of marketing.

Typically Offered
On sufficient demand

MLANG 001 - Study Abroad

Credits: 0

Study Abroad

Repeat for Credit
Y

Typically Offered
Fall, Spring

MLANG 100 - Beginner Studies in Foreign Language

Credits: 1-5

Course used to transfer credit for first and second semester language courses not offered at K-State. Consultation for approval is expected.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Global Issues and Perspectives

MLANG 106 - Legal Terminology: Latin and French for Law Professions

Credits: 2

Designed to familiarize students with vocabulary at use in the American legal system. Teaches basic French and Latin components used in legal terminology.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

MLANG 110 - Hebrew for Beginners

Credits: 2

An introduction to the Hebrew language and the culture of the people who speak the language. This general introduction includes skill development in reading, writing, and speaking basic Hebrew.

Note
Designed specifically for English-speaking students.

Repeat for Credit
N

Typically Offered
Intersession

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

MLANG 120 - Multilingualism in the U.S.

Credits: 3

Examines the sociolinguistic and sociocultural coexistence among English and varied minority languages (e.g., French, Chinese, Spanish, and German) through different blocks or content units. Students will gain an appreciation for multiculturalism and multilingualism in the U.S. while expanding their awareness concerning global issues. To this end, the students will learn and engage in discussions about race, identity, migration, acculturation, syncretical views and practices, language variation, and linguistic adaptability as experienced by multilingual communities with diverse ethnic backgrounds.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.

MLANG 200 - Intermediate Studies in Foreign Language I

Credits: 1-5

Course used to transfer credit for third semester language courses not offered at K-State.

Note
Prior consultation for approval is expected.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Global Issues and Perspectives

MLANG 280 - Studies in World Literature and Culture

Credits: 1-5

Provides the students the opportunity to investigate in detail a particular theme or genre in World literature or culture. Taught in English.

Note
Topics will vary.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

Cross-listed
ENGL 280

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

MLANG 297 - Honors Introduction to the Humanities I

Credits: 3

Study of selected major works of history, literature, and philosophy which have been of central importance in the Western cultural tradition. Considerable emphasis is placed on classroom discussion and writing interpretive essays.

Note
Limited to entering freshman students. Consent of instructor.

Repeat for Credit
N

Typically Offered
Intersession

Cross-listed
ENGL 297, HIST 297, PHILO 297

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

MLANG 298 - Honors Introduction to the Humanities II

Credits: 3

Continuation of MLANG 297.

Repeat for Credit
N

Requisites
Prerequisite: MLANG 297 or consent of instructor.

Typically Offered
Fall

Cross-listed
ENGL 298, HIST 298, PHILO 298.

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

MLANG 300 - Intermediate Studies in Foreign Language II

Credits: 1-4

Course used to transfer credit for fourth semester language course not offered at K-State.

Note
Prior consultation for approval is expected.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives

MLANG 301 - Languages and Your Future

Credits: 1

Investigation and application of resources for developing language and culture skills, as well as a knowledge base about related fields and careers. Taught in English.

Note
Recommended for Modern Languages majors and minors.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Global Issues and Perspectives

MLANG 398 - Intermediate Studies in Foreign Language

Credits: 1-6

Offered only to participants in study abroad programs. Prior consultation for approval is expected.

Repeat for Credit
Y

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

MLANG 399 - Honors Seminar in Modern Languages

Credits: 1-3

Reading and discussion of selected masterpieces of European literature in English translation.

Note
Open to non-language majors in the honors program.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

MLANG 499 - Honors Project

Credits: 3

Open only to Arts and Sciences students who are active members of the University Honors Program.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

MLANG 500 - K-State in Berlin

Credits: 3

K-State in Berlin

Repeat for Credit
N

Typically Offered
Other

MLANG 507 - European Literature in Translation

Credits: 3

Selected readings in English from the major authors of Europe and the Spanish-speaking world.

Note
Courses taught in English.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Historical Perspectives

MLANG 600 - Principles of Linguistics: Language Structure and Language Use

Credits: 3

Introduction to the fundamentals of linguistic analysis, including the sound system (phonetics and phonology), word formation (morphology), sentence formation (syntax), meaning (semantics and pragmatics). Formal and functional (usage-based) perspectives. Application of linguistics to language acquisition theory and to pedagogy.

Repeat for Credit
N

Requisites
Prerequisite: For ML majors & minors: GRMN 523 or GRMN 527, or FREN 513 or FREN 518 or one 700-level class, or SPAN 410 or SPAN 420 or SPAN 510; For other majors: ENGL 200.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Social Sciences

MLANG 710 - Introduction to Foreign Language Pedagogy

Credits: 3

Second and foreign language pedagogical theory is combined with the examination of practical concerns in the teaching of languages, in order to provide future and current instructors with the necessary background for making informed decisions concerning classroom practices. Taught in English.

Note
Instructor approval required.

Repeat for Credit
N

Typically Offered
Fall

MLANG 711 - Teaching Language Online

Credits: 3

Online education pedagogical theory is combined with the examination of practical concerns in the teaching of languages (second and foreign) in an online environment. Students explore various ways to adapt second and foreign language teaching practices for various online environments, such as synchronous and asynchronous learning, hybrid and hyflex course design, and self-paced formats. Provides future and current instructors with the tools that they need to create and teach in online environments. Taught in English.

Repeat for Credit
N

Typically Offered
Fall or Spring

MLANG 720 - Introduction to Literary Theory and Research Methodology

Credits: 3

An overview of theoretical approaches and classical texts that inform current trends in literary research in the modern languages.

Repeat for Credit
N

Typically Offered
On sufficient demand

MLANG 770 - Theories of 2nd Language Acquisition

Credits: 3

Introduction to the major theoretical frameworks of second language acquisition (SLA). Reading, discussion, and analysis of SLA research on a variety of linguistic and learning issues. Of interest to students of both language acquisition and literature. Taught in English.

Note
Instructor approval required.

Repeat for Credit
N

Typically Offered
Spring

MLANG 779 - Seminar in Modern Languages

Credits: 3

Variable topics.

Repeat for Credit
N

Typically Offered
Fall

MLANG 799 - Problems in Modern Languages

Credits: 1-18

Problems in Modern Languages

Repeat for Credit
N

Typically Offered
Other

MLANG 800 - Colloquium in Modern Languages

Credits: 2

A graduate colloquium for M. A. candidates in French, German, and Spanish. Variable topics in literary and cultural fields appropriate to study in common by students in these languages.

Repeat for Credit
Y

Typically Offered
Other

MLANG 803 - Practicum in Adult TESL/TEFL: Written and Oral Communication

Credits: 3

Overview of current issues and methodology in TES/FL and foundation for further exploration of teaching techniques used in skill specific areas of oral and written communication (including listening, speaking, reading, and writing). Provides students with training in TES/FL for adult learners. Students will acquire specific content and practice in defined skill areas.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall, Spring, Summer

MLANG 804 - Seminar/Topics in TESL/TEFL

Credits: 3

Variable topics on different aspects /areas of TEFL, e.g., pragmatics, assessment, and writing, etc. Overview of key concepts for each topic, issues, and methodology, discussion of its applications in TEFL. Equip students with the necessary knowledge and skills to competently teach different areas in TEFL.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall, Spring, Summer

MLANG 805 - Second Language Assessment

Credits: 3

Explores the basic concepts, principles, and methodology of second language assessment.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall, Spring, Summer

MLANG 899 - Research in Modern Languages

Credits: 1-18

Research in Modern Languages

Repeat for Credit

Y

Typically Offered
Fall

MLAS 100 - Survey of Machine Learning and Autonomous Systems

Credits: 3

Rapid progress has been made in the development of autonomous systems. Terrestrial robotics, interplanetary systems, planetary robotics, uncrewed aerial systems, remote sensing platforms, and autonomous automobiles have all made great advances. These technologies have been enhanced by advances in artificial intelligence (AI). A non-programming perspective, this course will survey the current state-of-the-art perspective on artificial intelligence technologies used in autonomous systems. We start by presenting both ML-based and AI-based architectures that form the basis of perception, path planning, cognitive arbitration, and motion control.

Repeat for Credit
N

Typically Offered
Fall

MLAS 200 - Introduction to Automata and Cybernetic Systems Theory

Credits: 3

This introductory course is a survey of the most common machine learning approaches used in creating descriptive and predictive analytical solutions. Students will be introduced to both the theoretical concepts and practical applications of machine learning and autonomous system. The course material introduces the probabilistic programming paradigm. Case studies will be used to illustrate the application of probabilistic programming frameworks in an applied industrial perspective.

Repeat for Credit
N

Requisites
Corequisite: MLAS 100

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

MLAS 350 - Data Structures for Machine Learning

Credits: 3

This course will cover the design, development, and employment of data structures and algorithms with an emphasis on time-space complexity. Data structure processing and computational processing problems related to the following time-space problems will be explored: constant, logarithmic, cubic, quadratic, polynomial, and exponential. Additionally, students will leverage Bachmann-Landau notation to describe time-space complexity.

Repeat for Credit
N

Requisites
Prerequisite: MLAS 200 and CYBR 335

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

MLAS 390 - Unsupervised Learning in Autonomous Systems

Credits: 3

Unsupervised learning is a type of machine learning that looks for previously undetected patterns in a data set with no pre-existing labels and with a minimum of human supervision. Using probabilistic programming languages, students will learn how to develop, interpret and deploy unsupervised machine learning models within autonomous systems. Common machine learning algorithms for unsupervised learning will be leveraged: k-means clustering, principal component analysis, non-negative matrix factorization, singular decomposition, and density-based spatial clustering of application with noise.

Repeat for Credit
N

Requisites
Prerequisite: STAT 225 and MLAS 350 or CC 315

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

MLAS 400 - Supervised learning in Autonomous Systems

Credits: 3

Supervised learning is the machine learning task of learning a function that maps an input to an output based on example input-output pairs. Using probabilistic programming languages, this course will illustrate supervised machine learning concepts via data preparation, training data, model evaluation, and operationalization. Common machine learning algorithms for supervised learning such as K-nearest neighbors, logistic regression, decision trees and random forests will be explored and operationalized within an autonomous system.

Repeat for Credit
N

Requisites
Prerequisite: STAT 225 and MLAS 350 or CC 315

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

MLAS 410 - Natural Language Processing

Credits: 3

This course gives an overview of modern data-driven techniques for natural language processing. We will discuss all the steps that are required for NLP such as text classification, neural nets for text classification, language modeling, word embedding, sequence labeling, context free grammar, constituency parsing, dependency parsing syntax, computational ethics, information extraction, conversational agents, machine translation and computational social science.

Repeat for Credit
N

Requisites
Prerequisite: MLAS 350

Typically Offered
Fall or Spring

MLAS 412 - Deep Learning

Credits: 3

This advanced deep learning course is designed to provide students with a comprehensive understanding of deep learning techniques, their applications, and the practical skills needed to work with deep neural networks. By the end of this course, students will have the knowledge and skills to design, implement, and evaluate advanced deep learning models for a wide range of applications.

Repeat for Credit
N

Requisites
Prerequisite: MLAS 350

Typically Offered
Fall or Spring

MLAS 500 - Reinforcement Learning in Autonomous Systems

Credits: 3

This course will guide students through the development and operationalization of reinforcement learning frameworks. Reinforcement learning architectures such as Markov decision processes, Q-Learning, artificial neural networks, recurrent neural networks, and generative adversarial networks will be explored. This course is a guide to the complexities of reinforcement learning, their respective architectures and implementations within an autonomous system.

Repeat for Credit
N

Requisites
Prerequisite: STAT 225 and MLAS 350 or CC 315

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

MLAS 501 - Artificial Intelligence Studio

Credits: 3-6

Students are expected to develop and operationalize an artificially intelligent framework using applied statistical methods, techniques in probabilistic programming, and principles of artificial intelligence. Students will be required to document underlying AI theories and demonstrate an operationalized AI framework.

Repeat for Credit
Y

Requisites
Corequisite: MLAS 390 or MLAS 400 or MLAS 500

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

MLAS 502 - Autonomous Systems Senior Capstone

Credits: 6

Students are expected to develop and operationalize an autonomous system using cybernetic principles of learning, computational frameworks, quantitative methods, and principles of engineering. Students will develop project documentation as needed to describe their autonomous systems project. Lastly, students will be required to successfully defend their project via a final oral presentation to associated faculty members. Whenever feasible, real-world projects are solicited from businesses.

Repeat for Credit
N

Requisites
Prerequisite: MLAS 390, MLAS 400, and MLAS 500

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

MLAS 650 - Autonomous Systems Architecture Studio

Credits: 3

This course introduces the conceptualization and architectural development of cognitive processing engines within an autonomous system that also includes the architecture of autonomous systems, design of agents, models and knowledge representations, control of robotic manipulators, machine vision, the dynamics of wheeled, air, space and underwater robots, navigation and localization.

Repeat for Credit
N

Requisites
Prerequisite: Experience with computer programming.

Typically Offered
Fall, Spring

MLAS 700 - Advanced Cybernetic Systems Development

Credits: 3

This course is focused on the design and development of cognitive processing engines within the context of the larger autonomous system. General cybernetic theories will be used in specific example where students will gain experience designing and implementing computerized feedback control systems. The principles of cybernetics are universal so that students will be able to transfer their understanding and skills to other industrial domains.

Repeat for Credit
N

Requisites
Prerequisite: MLAS 650

Typically Offered
Fall, Spring

MLAS 750 - Autonomous Networking within Cyber-Physical Systems

Credits: 3

Students will design and develop communication frameworks for cognitive processing engines within autonomous systems connected to CPS frameworks. The development of communication infrastructures that connect bodied (and unbodied) autonomous entities will also be

explored. Current literature, techniques, theories, and methodologies will be reviewed and discussed. Industry-base projects will help students creatively apply cutting-edge CPS research to their autonomous systems research problems.

Repeat for Credit
N

Typically Offered
Fall, Spring

MLAS 800 - Integrated Machine Learning and Autonomous Systems

Credits: 3

Students will study and develop an intelligent autonomous system, integrating perception, manipulation, learning, planning, and interaction. The autonomous system will be capable of learning and performing a variety of tasks in real-world environments while collaborating with humans. Additional artificial intelligence topics include: contextual reasoning, knowledge representation, perception and control, deep learning, and transfer learning.

Repeat for Credit
N

Requisites
Prerequisite: MLAS/CYBR 750

Typically Offered
Fall, Spring

MPH 701 - Fundamental Methods of Biostatistics

Credits: 3

A course emphasizing concepts and practice of statistical data analysis for the health sciences. Basic techniques of descriptive and inferential statistical methods applied to health related surveys and designed experiments. Populations and samples, parameters and statistics; sampling distributions for hypothesis testing and confidence intervals for means and proportions involving one sample, paired samples and multiple independent samples; odds ratios, risk ratios, simple linear regression. Use of statistical software to facilitate the collection, manipulation, analysis and interpretation of health related data.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

Cross-listed
STAT 701

MPH 708 - Veterinary Epidemiology

Credits: 2

Introduction to the principles and methods of veterinary epidemiology: emphasizing how diseases affect populations (and associated implications for individuals), and application to disease diagnosis, treatment, prevention, and control.

Repeat for Credit
N

Typically Offered
Spring

Cross-listed
DMP 708

MPH 720 - Administration of Health Care Organizations

Credits: 3

Comprehensive review of current health care institutions and their response to the economic, social/ethical, political/legal, technological, and ecological environments.

Note
Three hours lecture

Repeat for Credit
N

Typically Offered
Spring

Cross-listed
FNDH 720

MPH 754 - Introduction to Epidemiology

Credits: 3

The purpose of this course is to introduce students to the basic principles and methods of epidemiology in order to recognize and understand how disease affects populations (and the associated implications for individuals). This course will prepare students to use epidemiologic methods to solve current and future challenges to diagnose, treat, prevent, and control disease during their professional training and throughout their career.

Repeat for Credit
N

Typically Offered
Fall

Cross-listed
DMP 754

MPH 802 - Environmental Health

Credits: 3

This is a three-credit graduate-level course. Students will be exposed to professional practice of environmental sciences, epidemiology, toxicology, occupational health and industrial hygiene, and consumer health and safety. Topics include the methods for defining environmental contamination; identifying contaminants, pathogens and toxins; assessing risks and causality; determining health impact; ameliorating hazards; and protecting the population through waste management, regulatory programs, environmental inspections, food and product safety, and environmental policy. Participation is required.

Repeat for Credit
N

Typically Offered
Spring, Summer

Cross-listed
DMP - 802 Environmental Health

MPH 806 - Environmental Toxicology

Credits: 2

An advanced toxicology course concerned with the occurrence, biological effect, detection, and control of foreign chemicals in the environment.

Repeat for Credit
N

Requisites
Prerequisite: Consent of staff.

Typically Offered
Spring

Cross-listed
DMP 806

MPH 818 - Social and Behavioral Bases of Public Health

Credits: 3

The role of behavioral, social, psychological, economic, environmental, and social structural factors in both the occurrence of health problems in groups and populations, and in the development of the risk factors that contribute to these problems. Principles of health behavior change and the application of these principles to a variety of health issues as well as an emphasis on how social structural factors impact health are examined to better understand health behavior and health inequities in contemporary society.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate status in public health or kinesiology program.

Typically Offered
Fall

Cross-listed
KIN 818

MPH 840 - Public Health Practice

Credits: 1-6

Supervised field experience in an international, state, local, or district health agency or other appropriate health agency.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor. FDSCI 840, DMP 840, FNDH 840, and KIN 840.

Typically Offered
Fall, Spring, Summer

Cross-listed
FDSCI 840, DMP 840, FNDH 840, KIN 840

MPH 854 - Intermediate Epidemiology

Credits: 3

Epidemiologic principles of disease with a focus on measures of disease occurrence, association and impact, determinants of disease diagnostic test evaluation, study design and critical literature evaluation.

Repeat for Credit
N

Requisites
Prerequisite: DMP 708 or DMP 754 or equivalent AND STAT 701 or STAT 703 or DMP 830 or equivalent.

Typically Offered
Spring

Cross-listed
DMP 854

MSCI 100 - Introduction to Military Science and ROTC

Credits: 1-18

Basic drill, physical fitness, rappelling, army values, military presentations and basic marksmanship.

Note
Two classroom hours, a required leadership lab, and three one-hour sessions of physical fitness per week. Participation in a weekend exercise is optional, but highly encouraged.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

MSCI 101 - Introduction to Military Leadership

Credits: 1-18

Principles of effective leading. Communication skills to improve individual performance and group interaction. Relation of military organizational ethical values to the effectiveness of a leader, incorporating perspectives of the evolution of the U.S. Military from colonial times through the modern era.

Note
Two classroom hours, a required leadership lab, and three one-hour sessions of physical fitness per week. Participation in a weekend exercise is optional, but highly encouraged.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.

MSCI 200 - Self/Team Development

Credits: 1-18

Ethics-based military leadership skills that develop individual abilities and contribute to building effective teams. Oral presentations, leadership, land navigation, and basic military tactics.

Note
Two classroom hours; a required leadership lab; participation in three one-hour physical fitness sessions. Participation in a weekend exercise.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

MSCI 202 - Individual/Team Military Tactics

Credits: 1-18

Introduction to individual and team aspects of military tactics in small unit operations. Safety assessments,

movement techniques, military orders process, rifle marksmanship, rappelling.

Note
Two classroom hours; a required leadership lab; participation in three one-hour physical fitness sessions. Participation in a weekend exercise is optional, but highly encouraged.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.

MSCI 206 - Leaders Training Course

Credits: 0-4

A five-week summer camp conducted at Fort Knox, Kentucky. The United States Army provides pay, travel, lodging and meal costs. No military obligation incurred.

Note
Open only to students who have not completed all four of MSCI 101, MSCI 102, MSCI 201, and MSCI 202, and who pass a physical examination (paid for by ROTC).

This course is a summer camp and the student receives their grade in the Fall semester.

Repeat for Credit
N

Typically Offered
Fall, Summer

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

MSCI 301 - Leading Small Military Organizations I

Credits: 1-18

Series of practical opportunities to lead small groups in situations of increasing complexity. Uses small unit defensive tactics and opportunities to plan and conduct training.

Note
Three classroom hours, a leadership lab, participation in three one-hour physical fitness sessions. Participation in one weekend exercise is required, and one or two additional weekend exercises are offered for optional participation.

Repeat for Credit
N

Requisites
Prerequisite: Completion of the basic course. Instructor permission required for enrollment.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

MSCI 302 - Leading Small Military Organizations II

Credits: 1-18

Continues methodology of MSCI 301. Military missions and task analysis. Ethical decision making and lessons from leadership case studies.

Note
Three classroom hours, a leadership lab, participation in three one hour physical fitness sessions. Participation in one weekend exercise is required; two other weekend exercises optional.

Repeat for Credit
N

Requisites
Prerequisite: Completion of MSCI 301 and instructor permission.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

MSCI 306 - Leaders Development and Assessment Course

Credits: 0-4

A five-week camp conducted at Fort Lewis, Washington, by members of Kansas State University and other university Army ROTC faculty. The U.S. Army provides pay, travel, lodging and most meal costs. Highly structured and demanding, stressing leadership at small unit levels under varying, challenging conditions.

Repeat for Credit
N

Requisites
Prerequisite: MSCI 301 and MSCI 302.

Typically Offered
Fall, Summer

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

MSCI 351 - Military Leadership Studies and Practical Applications

Credits: 1-18

Independent research, analysis and monthly discussion on related military topics. Small unit tactics and practical application of leadership skills and individual research projects.

Note
Three classroom hours per week, a leadership lab, participation in three one-hour physical fitness sessions. Participation in one weekend exercise is required; two other weekend exercises optional.

Repeat for Credit
N

Requisites
Prerequisite: MSCI 301 or MSCI 302. Instructor permission.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

MSCI 401 - Leadership Challenges and Objective-Setting

Credits: 1-18

Plan, conduct, and evaluate activities of the ROTC cadet organization. Articulate goals, put plans into action to attain them. Assess organizational cohesion and develop strategies to improve it. Develop confidence in skills to lead people and manage resources. Learn and apply various Army policies and programs.

Note
Three classroom hours, a two-hour leadership laboratory, and weekly physical fitness activities. Cadets will also participate in a weekend field training exercise (FTX) and a formal military social event.

Repeat for Credit
N

Requisites
Prerequisite: MSCI 301 and MSCI 302 or department head permission.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

MSCI 402 - Transition to Lieutenant

Credits: 1-18

Continues the methodology from MSCI 401. Identify and resolve dilemmas. Refine counseling and motivating techniques. Examine aspects of tradition and law as relate to leading as an officer in the United States Army. Prepare for a future as a successful United States Army lieutenant.

Note
Cadets will also participate in a weekend field training exercise (FTX) and a formal military social event.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Global Issues and Perspectives

MSCI 499 - Honors Project

Credits: 3

Open only to Arts & Sciences students who are active members of the University Honors Program and Advanced Military Science Curriculum (must have completed the Basic Military Science Curriculum or received United States Army Cadet Command credit through prior military service or completion of the Leaders Training Course).

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

MSCI 501 - Advanced Transition to Lieutenant I

Credits: 1-18

Independent research, analysis and monthly discussion on related military topics. Personal, academic, and professional goals and objectives, development and maintenance of an officer evaluation report support form.

Repeat for Credit
N

Requisites
Prerequisite: MSCI 401 and MSCI 402 or department head permission.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

MSCI 502 - Advanced Transition to Lieutenant II

Credits: 1-18

Independent research, analysis, and monthly discussion on related military topics. Personal, academic, and professional goals and objectives, development, and maintenance of an officer evaluation report support form.

Repeat for Credit
N

Requisites
Prerequisite: MSCI 501.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

MUSIC 050 - Recital Attendance

Credits: 0

Recital Attendance

Repeat for Credit
Y

Typically Offered
Spring

MUSIC 060 - Piano Proficiency

Credits: 0

Required for graduation of all music majors.

Repeat for Credit
Y

Typically Offered
Fall, Spring

MUSIC 100 - Introduction to Music Theory

Credits: 3

Introduction to the theory of music for non-music majors, including the skills needed to read and write Western music notation and to understand the rhythmic, melodic, harmonic, and structural elements of music.

Note
Limited to non-music majors.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 101 - A New Rhythm: Cultivating a Healthy Life in College and Beyond

Credits: 1

Designed to empowers today's young adults to better understand strategies and activities that support lifelong health and wellness. Resources and course curricula will address physical, mental, emotional, social, environmental, and spiritual (seeking one's purpose) wellness practices.

Repeat for Credit
N

Typically Offered
Fall, Spring

MUSIC 103 - Voice Class I

Credits: 1

A beginning course in the basics of singing for non-music majors.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 104 - Voice Class II

Credits: 1

Singing technique skills beyond the basics to include performance skills for non-music majors.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 103.

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 111 - Concert Choir

Credits: 0-1

Admission by audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 112 - University Choir

Credits: 0-1

Open to all K-State students without audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 113 - University Band

Credits: 0-1

Open to all interested wind and percussion performers without audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 114 - Cat Band

Credits: 0-1

Admission by audition.

Repeat for Credit
Y

Typically Offered
Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 115 - Marching Band

Credits: 0-1

Admission by audition.

Repeat for Credit
Y

Typically Offered
Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 116 - Concert Band

Credits: 0-1

Open to all interested wind and percussion performers without audition.

Repeat for Credit
Y

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 117 - Wind Symphony

Credits: 0-1

Admission by audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 118 - Jazz Ensemble Lab A

Credits: 0-1

An intermediate level college jazz ensemble. Examine and perform various jazz ensemble pieces selected from extant literature which may include cool, swing, hard bop, bossa, Latin, samba, funk/rock, and other styles.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

MUSIC 119 - Madrigal and Motet Ensemble

Credits: 0-1

Vocal chamber ensemble open to any KSU student by audition. Ensemble performs literature from the Middle Ages through the 18th century. Rehearses once per week and perform one or two concerts per semester.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

MUSIC 120 - Recorder Ensemble

Credits: 0-1

Recorder Ensemble is open to all KSU students. The ensemble performs literature from the Middle Ages through contemporary compositions. Rehearses once per week and performs one or two concerts per semester.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

MUSIC 121 - Collegiate Chorale

Credits: 0-1

Open to all interested singers. Audition determines membership in this and other choral organizations.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 129 - University Orchestra

Credits: 0-1

A non-audition ensemble open to all KSU string musicians who perform literature ranging from grade levels 1-3. Conducted by KSU string education majors, students rehearse once per week and perform one or two concerts throughout the spring semester.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

MUSIC 130 - Symphony Orchestra

Credits: 0-1

Admission by audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 131 - Theatre Orchestra

Credits: 0-1

Admission by audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 135 - University Tenor/Bass Choir

Credits: 0-1

Admission by audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 140 - University Treble Chorus

Credits: 0-1

Admission by audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 150 - History of Musical Instruments

Credits: 2-3

The development of musical instruments in each period of Western music.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

MUSIC 151 - Women in Music

Credits: 3

Explores music composed by women. Features western art music from the traditional stylistic periods, women's contributions to jazz, popular, and some world music. Examines women's roles as performers and patrons, and attitudes toward female musicians.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

MUSIC 152 - Introduction to Film Music

Credits: 3

Explores the evolution of the cinematic soundtrack. Introduces students to notable film composers, film-scoring techniques, and significant works in this genre. Designed for non-music majors and does not require previous musical training, also open to music majors.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

MUSIC 153 - History of Jazz

Credits: 3

Survey of jazz styles and personalities.

Note
For music majors and non-majors.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Historical Perspectives
Human Diversity within the U.S.

MUSIC 154 - Salsa: Afro-Cuban Music of the Past and Present

Credits: 3

Appreciation, historical knowledge, mechanics, aesthetics, and cultural contexts of salsa.

Repeat for Credit
N

Typically Offered
On sufficient demand

K-State Core
6 Arts and Humanities

K-State 8
Historical Perspectives
Human Diversity within the U.S.

MUSIC 155 - Jazz in Kansas City and the Southwest

Credits: 2-3

The history and development of jazz styles in Kansas City and the southwestern United States, emphasizing the influence on styles of other geographic areas.

Repeat for Credit
N

Typically Offered
Spring

K-State Core
6 Arts and Humanities

K-State 8
Historical Perspectives
Human Diversity within the U.S.

MUSIC 156 - Introduction to the Broadway Musical

Credits: 3

The history of operetta, broadway musicals, and musical comedy.

Repeat for Credit
N

Typically Offered
On sufficient demand

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 157 - Introduction to American Music

Credits: 3

An introduction to the functions of music in American society and the elements of music, including a survey of the development of various types and styles of music in America.

Repeat for Credit
N

Typically Offered
Spring

K-State Core
6 Arts and Humanities

K-State 8
Historical Perspectives
Human Diversity within the U.S.

MUSIC 160 - Experiencing Live Music

Credits: 2-3

Through attendance at professional music performances, guest speakers, panel discussions, and course readings, students will develop the vocabulary and critical listening skills to understand and discuss music and the socio-cultural factors that shape the experience of music performances. Students will critically examine how music experiences change or remain the same across formats, cultures, and styles, including popular music, jazz, Western art music, and world music traditions. Students will have the option to take this course for three (3) credits which will add a action research project as part of this experience.

Repeat for Credit
N

Requisites
Prerequisite: Limited to non-music majors.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

MUSIC 170 - History of Rock and Roll

Credits: 3

A study of Rock and Roll from its origins through today, focusing on the development of rock styles from its roots in blues, folk, country, and pop. Expansion of listening experience through study of song forms, musical instruments of rock, and the socio-political significance of song lyrics. Examinations, research paper required.

Note
Student need not be able to perform or read music.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

MUSIC 171 - Inventing the Future: Underground Rock: 1968-1993

Credits: 3

An introduction to the underground rock music, musicians, and scenes from the 1960's to the 1990's that have proven most influential on modern popular music and culture.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Historical Perspectives
Human Diversity within the U.S.

MUSIC 172 - History of Country Music

Credits: 3

History of country music's identity in American culture.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

MUSIC 173 - Music as Protest and Propaganda in the United States

Credits: 3

Explores music's transformative role in protest movements and as propaganda in the United States from 1775-present. Curated playlists from Jazz, Country, Soul, Hip Hop, Rock, Spirituals, and more encourage students to analyze sociopolitical issues through historical and contemporary music. Emphasis on musical responses to racial and ethnic inequities.

Note
Ability to read or perform music NOT required.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

MUSIC 174 - History of Hip Hop

Credits: 3

Students will explore a basic body of knowledge about the history and emergence of rap music, components to its evolution, influences and representation of hip hop culture.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

MUSIC 203 - Vocal Techniques I

Credits: 1

A beginning course in the basics of singing and teaching skills.

Note
For music education majors whose emphasis is instrumental music.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

MUSIC 204 - Vocal Techniques II

Credits: 1

Singing and teaching skills beyond the basics and presentation of materials suitable for private and public school instruction at the secondary level.

Note
For music education majors whose emphasis is instrumental music.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 203.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

MUSIC 205 - Music for Elementary Teachers

Credits: 3

The contribution of music to child development in elementary schools. A study of music literature suited to children through the development of purposive listening and the expressive phases of music including rhythmic response, singing, playing, reading, and writing.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

MUSIC 208 - Guitar Class I

Credits: 1

Beginning-level group instruction in guitar performance.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 210 - Music Theory I

Credits: 3

An introduction to the basic language of music; scales, triads and seventh chords, and all simple intervals. Written and aural skills reinforce concepts of melody, rhythm, and harmony.

Repeat for Credit
N

Requisites
Prerequisite: Tested knowledge of basic music reading and aural skills.

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 211 - Piano Class I

Credits: 1

For students with no piano background. Topics covered will include notation, intervals, accompaniment patterns, major scales, triads, basic progressions, and musicianship.

Note
Sections also available for non-music majors and non-degree students.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 212 - Piano Class II

Credits: 1

Covers minor scales and arpeggios, minor chords, black-key major and minor scales, seventh chords, and harmonization.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 211.

Typically Offered
Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 213 - Piano Class III

Credits: 1

Reinforces and expands the skills introduced in the previous levels: harmonization, transposition, sight-reading, improvisation, and technical exercises continue to

be at the core of the curriculum, while introducing new concepts such as transposing instruments, secondary chords, and both instrumental and vocal accompanying.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 212.

Typically Offered
Fall

K-State Core
6 Arts and Humanities

MUSIC 214 - Piano Class IV

Credits: 1

Reinforces and expands the skills introduced in previous levels: harmonization, transposition, sight-reading, improvisation, and technical exercises continue to be at the core of the curriculum, while introducing new concepts such as modulations, alto clef reading, augmented and Neapolitan sixth chords, and vocal warm-ups. Passing the final exam for this course fulfills the piano Proficiency requirements (MUSIC 060).

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 213.

Typically Offered
Spring

K-State Core
6 Arts and Humanities

MUSIC 220 - Topics in Music

Credits: 1-3

Exploration of the musical dimensions of a particular topic or theme. Topics vary.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

MUSIC 230 - Music Theory II

Credits: 3

Continued experience with the language of music. Part-writing, analysis, composition.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or higher in MUSIC 210 or tested knowledge of basic music theory and concurrent enrollment in MUSIC 231.

Typically Offered
Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 231 - Aural Skills I

Credits: 1

Development of aural skills through sight singing, rhythmic training, and ear-training; melodic, rhythmic, and harmonic dictation to reinforce concepts in Music Theory II.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or higher in MUSIC 210 or tested knowledge of music.

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 232 - Fundamentals of Teaching Music

Credits: 2

Techniques, materials, and experiences for a variety of music classes will be examined through discovery. Furthermore, lesson plan development, writing, and implementation will be examined in detail.

Repeat for Credit
N

Typically Offered
Fall, Spring

MUSIC 233 - English Diction

Credits: 1

Focuses on enunciation and transcription of the English language as it applies to lyric (sung) diction using the international Phonetic Alphabet (IPA). Familiarity with proper pronunciation is gained through listening, singing, and transcription assignments.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

MUSIC 234 - String Techniques and Materials

Credits: 1

A beginning course in the fundamentals of playing and methods for teaching stringed instruments.

Note
For music majors only, and not open to string majors.

Repeat for Credit
N

Typically Offered
Fall, Spring

MUSIC 235 - Percussion Techniques and Materials

Credits: 1

The fundamentals of playing and methods of teaching percussion instruments.

Repeat for Credit
N

Typically Offered
Spring

MUSIC 236 - Clarinet & Saxophone Woodwind Techniques and Materials

Credits: 1

A course in the fundamentals of playing and methods for teaching single reed woodwind instruments.

Note
For music majors only.

Repeat for Credit
N

Typically Offered
Fall

MUSIC 237 - Double Reed and Flute Woodwind Techniques and Materials

Credits: 1

A course in the fundamentals of playing and methods for teaching double reed and flute woodwind instruments.

Note
For music majors only.

Repeat for Credit
N

Typically Offered
Spring

MUSIC 238 - High Brass Techniques and Materials

Credits: 1

A course in the fundamentals of playing and methods for teaching high brass instruments.

Note
For music majors only.

Repeat for Credit
N

Typically Offered
Spring

MUSIC 239 - Low Brass Techniques and Materials

Credits: 1

A course in the fundmentals of playing and methods for teaching low brass instruments.

Note
For music majors only.

Repeat for Credit
N

Typically Offered
Fall

MUSIC 240 - Advanced String Techniques and Materials

Credits: 1

Playing and teaching skills beyond fundamentals and presentation of materials suitable for private and public school instruction at the secondary level.

Note
Required of all instrumental majors in music education.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 234.

Typically Offered
Spring

K-State Core
6 Arts and Humanities

MUSIC 241 - Italian Diction

Credits: 1

Rules for pronouncing and translating Italian vocal texts.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 242 - French Diction

Credits: 1

Rules for pronouncing and translating French vocal texts.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 243 - German Diction

Credits: 1

Rules for pronouncing and translating German vocal texts.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 244 - West African Drumming and Percussion

Credits: 2

Explores several styles of drumming and African Xylophone playing from the Ga, Dagara, and Ewe traditions from Ghana and other parts of West Africa. Instruction, includes but it is not limited to playing techniques and musical structure for drumming and Xylophone playing as associated with common recreational dances. No prior experience is necessary.

Note
All musical instruments are supplied for class. Students may use their own instruments.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

MUSIC 246 - Drumset Techniques

Credits: 1

Develops and refines skills,vocabulary, and rhetoric necessary to performing as a functional drummer in a variety of settings and styles. Topics of focus will include buidling a groove vocabulary, expanding listening to a wide variety of drummers, developing physical coordination at the kit, and reading drum charts for maximum musicality.

Repeat for Credit
N

Requisites
Recommended Foundation: Previous percussion experience

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

MUSIC 248 - Songwriting

Credits: 3

Basic music theory pertainng to the creation of a melody and the harmonization of that melody; how to craft creative lyrics, identify song form, and write a song using the most common and relevant forms in popular music.

Repeat for Credit
Y

Typically Offered
Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 249 - Introduction to Music of the World

Credits: 3

This course will develop listening skills and an understanding of the meaning of music from around the world. Students will discover how music can be used as a form of human expression, and also reflect the culture in which it was created. Due to the non-Western focus, cultural background and perspective will be provided for each population discussed including the influence of music within and upon societies and its members highlighting issues of human diversity outside the U.S.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

MUSIC 250 - Introduction to Music

Credits: 3

An overview of music from chant to jazz, incorporating listening skills, elements of music, and music history. Designed to heighten the perception and enjoyment of music for the student listener.

Note
For non-music majors only.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

MUSIC 251 - Applied Study for Non-Music Majors

Credits: 1-2

Applied study for non-music majors.

Note
Admission by audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

MUSIC 254 - Secondary Performance

Credits: 1-2

For students who wish to study an instrument or voice other than the major performance area. Instruction is offered every semester in voice and each of the following instruments: baritone, bassoon, clarinet, double bass, early winds, flute, French horn, guitar, harp, harpsichord, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, viola da gamba, violin, and violoncello.

Note
Students may enroll in more than one instrument simultaneously and may earn 1-2 hours per semester in each instrument.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

MUSIC 255 - Lower-Division Performance

Credits: 1-4

Instruction and experience in solo performance is offered every semester in voice and each of the following instruments: baritone, bassoon, clarinet, double bass, early winds, flute, French horn, guitar, harp, harpsichord, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, viola da gamba, violin, and violoncello.

Note
Students may enroll in more than one instrument simultaneously and may earn 1 to 4 hours per semester in each instrument. Admission by audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

MUSIC 266 - Marching Band Techniques for School Music Educators

Credits: 2

Practical techniques of marching band in school music programs and the skills necessary to design, organize, instruct, and evaluate a marching band show.

Repeat for Credit
N

Typically Offered
Spring

MUSIC 267 - String Orchestra Pedagogy

Credits: 2

This course is designed to prepare undergraduate students to be successful string educators. Students in this course will discuss and demonstrate knowledge of key topics including advanced string teaching strategies for both right and left-hand skills, string orchestra lesson plan design, program curricular development, recruitment and retention of students, the merging of supplemental pedagogical materials within the lesson plan, alternative performance styles, and administrative tasks specific to string teaching.

Repeat for Credit
N

Typically Offered
Fall

MUSIC 268 - Vocal Pedagogy

Credits: 2

Study of vocal production, exploring the scientific principles of breathing, resonance, timbre, and other vocal features. Discussion of vocal health and teaching styles will be included.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

MUSIC 280 - Lower-Division Ensemble Performance

Credits: 1

Instruction is offered each semester in the following areas: brass, chamber music, concert jazz, jazz combo, strings, winds, percussion, and vocal ensemble.

Note
Admission is by audition and students may enroll in more than one ensemble simultaneously.

Repeat for Credit
Y

Typically Offered
On sufficient demand

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

MUSIC 320 - Music Theory III

Credits: 3

Theoretical concepts of eighteenth-century music. Modulations, secondary function chords, counterpoint, and some chromatic harmony. Identify and work with elements of musical structure through exercises, analysis and composition.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 230 with grade of C or higher and concurrent enrollment in MUSIC 321.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

MUSIC 321 - Aural Skills II

Credits: 1

Sight singing, rhythmic training, and ear-training through drills and dictation to reinforce concepts in Music Theory III.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 231 with grade of C or higher. Corequisite: MUSIC 320.

Typically Offered

Fall, Spring

K-State 8
Aesthetic Interpretation

MUSIC 323 - Lower-Division Composition

Credits: 1-18

Composition instruction through individual lessons and group seminar instruction.

Note
Instructor permission.

Repeat for Credit
Y

Typically Offered
Fall, Spring

MUSIC 350 - Collaborative Piano-Studio

Credits: 1

Piano student assigned to studio instructor.

Note
Accompanies lessons for at least two hours a week. Ensemble credit for pianists. Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

MUSIC 351 - Collaborative Piano-Recital

Credits: 1

Piano student assigned to a music major preparing for graduation recital.

Note
Pianist accompanies student in lessons and presents the formal public program as course requirement. Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

MUSIC 360 - Music Theory IV

Credits: 3

Theoretical concepts of late nineteenth-century music and twentieth-century music: chromatic harmony and twentieth-century compositional techniques, analysis, and composition. Identify and work with elements of musical structure.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 320 with grade of C or higher. Corequisite: MUSIC 361.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

MUSIC 361 - Aural Skills III

Credits: 1

Sight singing, rhythmic training, and ear-training through drills and dictation to reinforce concepts in Music Theory IV.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 321 with grade of C or higher. Corequisite: MUSIC 360.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

MUSIC 362 - Aural Skills Proficiency

Credits: 0

Required for graduation of all music majors.

Repeat for Credit
Y

Requisites
Prerequisite: MUSIC 320 or concurrent enrollment.

Typically Offered
Fall, Spring

MUSIC 365 - Conducting

Credits: 1

Techniques of the baton gestures, signs, and cues as generally used in conducting choral and instrumental organizations.

Note
For music majors only.

Repeat for Credit
N

Requisites
Prerequisite: COMM 106 or 109 and a grade of C or higher in MUSIC 320 and MUSIC 321.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

MUSIC 373 - Jazz Guitar Seminar

Credits: 1

Listening to jazz guitar literature, performing, and offering meaningful critique.

Repeat for Credit
N

Requisites
Prerequisite: Audition. Corequisite: MUSIC 696, MUSIC 698.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

MUSIC 391 - Keyboard Pedagogy

Credits: 2

A systematic study of pedagogy which examines effective teaching methods and aids in the development of a philosophy of professional teaching.

Repeat for Credit
N

Requisites
Prerequisite: Keyboard majors with concurrent enrollment in MUSIC 455.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

MUSIC 400 - Concert Choir

Credits: 0-1

Admission by audition.

Repeat for Credit
Y

Typically Offered
On sufficient demand

K-State 8
Aesthetic Interpretation

MUSIC 401 - Concert Band

Credits: 0-1

Open to all interested wind and percussion performers without audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

MUSIC 402 - Wind Ensemble

Credits: 0-1

Admission by audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

MUSIC 403 - Collegiate Chorale

Credits: 0-1

Open to all interested singers. Audition determines membership in other choral organizations.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

MUSIC 404 - Symphony Orchestra

Credits: 0-1

Admission by audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

MUSIC 406 - Collegiate Jazz Ensemble

Credits: 0-1

An advanced level college jazz ensemble. Examines and preforms various jazz ensemble pieces selected from extant literature which may include cool, swing, hard bop, bossa, Latin, samba. funk/rock, and other styles.

Repeat for Credit
Y

Typically Offered
Fall, Spring

MUSIC 408 - University Tenor/Bass Choir-Upper Division

Credits: 0-1

Admission by audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

MUSIC 409 - University Treble Chorus-Upper Division

Credits: 0-1

Admission by audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

MUSIC 411 - Marching Band

Credits: 0-1

Admission by audition.

Repeat for Credit

Y

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

MUSIC 412 - University Band

Credits: 0-1

Open to all interested wind and percussion performers by audition.

Repeat for Credit
Y

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

MUSIC 414 - Theatre Orchestra

Credits: 0-1

Admission by audition.

Repeat for Credit
Y

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

MUSIC 416 - Cat Band Upper Division

Credits: 0-1

Admission by audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

MUSIC 418 - Wind Symphony

Credits: 0-1

Using a player-pool concept, the ensemble will explore outstanding and varied wind literature. Repertoire may range from a classical octet to a one-on-a-part performance of a major large band work. Admission by audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring

MUSIC 431 - Music Business 1

Credits: 2

Provides students with the tools for a career in music. Topics covered include: resumes, curriculum vitas, developing music websites, creating an on-line presence, tax protocol for musicians, goal-setting strategies, and meeting short and long-term music business goals.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing

Typically Offered
Fall, Spring

MUSIC 432 - Music Business 2

Credits: 2

Explores elements of the music industry including business frameworks, legal topics, and interpersonal relations. Projects are individualized to the student's specialty area within the music industry.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 431

Typically Offered
Fall, Spring

MUSIC 441 - Pop Music Icons

Credits: 3

An exploration of the musical decisions that define the world's leading pop musicians and songwriters. Using directed listening and curated playlists, students will engage with musical offerings and develop an understanding of influences for each artist studied. Individual artists or collected groups of artists are examined in detail.

Note
No previous training is necessary, but prior work with the elements of music, songwriting, or a broad popular music course may be helpful.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MUSIC 454 - Upper Division Secondary Performance

Credits: 1-4

For students who wish to study an instrument or voice other than the major performance area. Instruction is offered every semester in voice and each of the following instruments: baritone, bassoon, clarinet, double bass, early winds, flute, French horn, guitar, harp, harpsichord, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, viola da gamba, violin, and violoncello. This course allows for upper-division study within their secondary instruments.

Note
This course is aligned with upper division performance courses (MUSIC 455) but is offered to students who are achieving at the upper-division level on their secondary instrument. Admission by audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

MUSIC 455 - Upper-Division Performance

Credits: 0-4

Instruction and experience in solog performance is offered every semester in voice and each of the following instruments: baritone, bassoon, clarinet, double bass, early winds, flute, French horn, guitar, harp, harpsichord, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, viola da gamba, violin, and violoncello.

Note
Students may enroll in more than one instrument simultaneously and may earn 1 to 4 hours per semester in each instrument. Admission by audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring

MUSIC 456 - Choral Conducting

Credits: 1

Continued mastery of the skills in Conducting I while emphasizing essential techniques and interpretation for choral ensembles.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 365.

Typically Offered
Spring

MUSIC 457 - Instrumental Conducting

Credits: 1

Continued mastery of the skills in Conducting while emphasizing essential techniques and interpretation for instrumental ensembles.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 365.

Typically Offered
Spring

MUSIC 458 - Music in the Schools, PK-6

Credits: 3

The study of the musical characteristics of children and development of appropriate curriculum, instructional materials and techniques, and related technology for teaching musical understanding, literacy, multi-cultural connections, and creative improvisation in grades PK-6 instrumental, vocal, and general music.

Note
This course includes supervised field experiences.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 315, EDCI 318, EDCI 320, and EDSP 323.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

MUSIC 459 - Music Programs in Middle School/High School

Credits: 3

Organization and administration of the comprehensive music program in junior and senior high schools; including the study of vocal and instrumental ensemble development, as well as techniques and materials for other types of music classes.

Note
This course includes a supervised field experience.

Repeat for Credit
N

Requisites
Prerequisite: EDCI 315, EDCI 318, EDCI 320, and EDSP 323.

Typically Offered
Fall

MUSIC 460 - Teaching Beginning Instruments

Credits: 1

Students will learn and employ techniques and strategies for teaching beginning band and orchestra instruments.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 234, EDCEP 315, EDCI 320, EDSP 323.

Typically Offered
Spring

MUSIC 461 - Advanced Studies in Music Education

Credits: 2

Advanced instructional methods and technologies related to the teaching of music in grades pre-K-12 implemented through investigation of current trends in the field, advanced unit design, and field experience.

Repeat for Credit
Y

Requisites
Prerequisite: EDCI 315, EDCI 318, EDCI 320, EDSP 323, and MUSIC 458 with grade of C or higher or MUSIC 459 with a grade of C or higher.

Typically Offered
Fall, Spring

MUSIC 462 - Instrumental Jazz Instruction

Credits: 1

Guides future instrumental teachers on techniques to teach jazz including beginning improvisation, combo, big band techniques, and school jazz literature.

Repeat for Credit
N

Typically Offered
Spring

MUSIC 463 - Vocal Jazz Instruction

Credits: 1

Guides future choral teachers on techniques to teach jazz including beginning improvisation, jazz choir, and school jazz literature.

Repeat for Credit
N

Typically Offered
Spring

MUSIC 464 - Methods and Materials for the Studio

Credits: 2

Methods of teaching fundamental techniques; selection of teaching materials outlining courses of study. For undergraduate students in performance curricula. Taught in divisions according to the major. Practical application through supervised studio teaching.

Repeat for Credit
N

Requisites
Corequisite: MUSIC 455

Typically Offered
Fall, Spring, Summer

MUSIC 466 - Music History I: Ancient Greece to Beethoven

Credits: 3

An overview of stylistic trends, major composers, repertoire of ancient Greece, the Middle Ages, Renaissance and early Baroque periods.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 100, ENGL 200, and a grade of C or higher in MUSIC 320.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Historical Perspectives

MUSIC 467 - Music History II: Beethoven to Present

Credits: 3

An overview of stylistic trends, major composers, repertoire of the late Classical period to present day.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 100, ENGL 200, and a grade of C or higher in MUSIC 360 and MUSIC 361.

Typically Offered
Spring

MUSIC 468 - Music History III: 1850 to the Present

Credits: 3

An overview of the development of stylistic and cultural trends, major composers, and repertoire of the late Romantic period through the present.

Repeat for Credit
N

Requisites
Prerequisite: Grade of C or higher in Music 320.

Typically Offered
Fall

MUSIC 469 - Instrumentation and Arranging

Credits: 2

Study of writing and arranging for the strings, woodwinds, brass and percussion as well as choral ensembles. Functional ranges and practical applications through score study and projects.

Repeat for Credit
N

Requisites

Prerequisite: MUSIC 360, MUSIC 361

Typically Offered
Fall

MUSIC 475 - Opera Workshop

Credits: 1-18

Principles and techniques of operatic and musical theatre production, with emphasis on class rehearsal and performance of selected scenes from opera and musical drama; brief survey of the history of opera.

Note
Offered jointly by the Departments of Music and Communication Studies. Vocal ensemble credit may be earned in this course.

Repeat for Credit
Y

Typically Offered
On sufficient demand

Cross-listed
THTRE 475

K-State 8
Aesthetic Interpretation

MUSIC 480 - Upper-Division Ensemble Performance

Credits: 1

Instruction is offered each semester in the following areas: brass, chamber music, concert jazz, jazz combo, strings, winds, percussion, and vocal ensemble.

Note
Admission is by audition and students may enroll in more than one ensemble simultaneously.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

MUSIC 490 - Collegium Musicum

Credits: 0-1

A vocal and instrumental ensemble devoted to the historically-informed performance of music written primarily during the Medieval, Renaissance, and Baroque periods (c. 1100-1750. Instruments of the historical period used when possible.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

MUSIC 500 - Applied Recital

Credits: 0

Public performance; vocal or instrumental with suggested performing time of 25 minutes. Intended for performances in addition to required recital performances (MUSIC 502 and/or 501).

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 255
Corequisite: MUSIC 255 or MUSIC 455

Typically Offered
Fall, Spring

MUSIC 501 - Half Recital

Credits: 1

Public performance; vocal or instrumental with suggested performing time of 25 minutes.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

MUSIC 502 - Full Recital

Credits: 2

Public performance; vocal or instrumental with suggested performing time of 50 minutes.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

MUSIC 523 - Upper-Division Composition

Credits: 0-18

Composition instruction through individual lessons and group seminar instruction. Emphasis on meeting professional standards of composition and score/part preparation and creation of a varied portfolio of works.

Note
Submission of a portfolio of pieces for faculty review and approval.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MUSIC 599 - Special Studies in Music

Credits: 1-3

Special Studies in Music

Repeat for Credit
Y

Requisites
Prerequisite: Background of courses needed for studies undertaken.

Typically Offered
Fall, Spring, Summer

MUSIC 696 - Jazz Theory I

Credits: 1

Basic fundamentals of jazz theory to develop critical thinking and performing skills.

Note
Instructor permission.

Repeat for Credit
N

Typically Offered
Fall

MUSIC 697 - Jazz Theory II

Credits: 1

Intermediate level fundamentals of jazz theory to develop critical thinking and performing skills.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 696, MUSIC 298.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

MUSIC 698 - Jazz Improvisation I

Credits: 1

Develop skills in the area of jazz improvisation in a performance lab setting.

Note
Instructor consent.

Repeat for Credit
N

Typically Offered
Fall

MUSIC 699 - Jazz Improvisation II

Credits: 1

Continued development of jazz improvisational skills in a performance lab setting.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 697 or consent of instructor.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

MUSIC 700 - Literature Analysis

Credits: 3

Explore, evaluate, and analyze the masterworks of the wind, choral, and orchestral genres.

Note
This course will alternate annually between Instrumental and Choral literature.

Repeat for Credit
N

Typically Offered
Summer

MUSIC 701 - Graduate Theory Review

Credits: 2

For graduate students in music for whom additional work in the harmonic and formal aspects of tonal and chromatic music is needed.

Note
This course does not fulfill degree requirements.

Repeat for Credit
N

Typically Offered
Fall, Summer

MUSIC 702 - Style Analysis

Credits: 3

Training in a comprehensive, systematic analytical approach to all style periods, and in verbalizing analytical perceptions.

Repeat for Credit
N

Typically Offered
Fall, Summer

MUSIC 703 - Graduate History Review

Credits: 2

For graduate students in music for whom additional work in music history is needed based on thier performance on the Graduate Music History Entrance Exam. This course does not fulfill graduate degree requirements. A grade of an A or B is required to enroll in graduate level music history courses.

Repeat for Credit
N

Typically Offered
Fall, Summer

MUSIC 704 - Symphonic Literature

Credits: 3

The development of orchestral music from the late Baroque to the present, with emphasis on selected symphonies of the late eighteenth and nineteenth centuries.

Repeat for Credit
N

Typically Offered
Other

MUSIC 705 - Chamber Music Literature

Credits: 3

A selected survey of masterpieces of small ensemble music from 1750 to the present. Special emphasis on the string quartet.

Repeat for Credit
N

Typically Offered
Other

MUSIC 706 - Song Literature

Credits: 3

Survey, by historical period and national styles, of major solo vocal works.

Repeat for Credit
N

Typically Offered
Other

MUSIC 707 - History of Wind Bands

Credits: 3

Development of the wind band medium from the Renaissance to the present, with focus on the composers and literature.

Repeat for Credit
N

Typically Offered
Spring-Even Years

MUSIC 708 - Choral Literature

Credits: 3

A study of standard choral masterpieces in both large and small forms from 1450 to the present.

Repeat for Credit
N

Typically Offered
Other

MUSIC 709 - History of School Choral Music

Credits: 3

Development of choral music in schools with focus on composers and literature.

Repeat for Credit
N

Typically Offered
Other

MUSIC 710 - Percussion Pedagogy

Credits: 2-3

Advanced study of percussion instruments and related performance techniques, teaching methods and responsibilities, organization, and literature.

Repeat for Credit
N

Typically Offered
Summer

MUSIC 711 - Concert and Ethnic Percussion Techniques

Credits: 2-3

Advanced study of percussion performance techniques commonly associated with concert band and percussion ensemble, as well as percussion techniques associated with music of other cultures.

Note
The three credit-hour option includes additional assignments.

Repeat for Credit
N

Typically Offered
Other

MUSIC 712 - Jazz and Marching Percussion Techniques

Credits: 2-3

Advanced study of percussion performance techniques commonly associated with marching percussion and jazz idioms.

Note
The three credit-hour option includes additional assignments.

Repeat for Credit
N

Typically Offered
Summer

MUSIC 713 - Survey of Vocal Solos for Adolescents

Credits: 3

An in-depth study of appropriate solo literature for adolescent singers.

Repeat for Credit
N

Typically Offered
Summer

MUSIC 714 - Advanced Orchestration

Credits: 2

The study of orchestra and band scores. Exercises in orchestrating this type of music for different choirs of instruments, as well as scoring for full orchestra and symphonic band.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 469.

Typically Offered
Spring

MUSIC 715 - Advanced Woodwind Techniques

Credits: 2

Advanced techniques in the teaching of all woodwind instruments for music teachers.

Repeat for Credit
N

Typically Offered
Summer

MUSIC 716 - Advanced Brass Techniques

Credits: 2

Advanced techniques in the teaching of all brass instruments for music teachers.

Repeat for Credit
N

Typically Offered
Summer

MUSIC 717 - Lower String Pedagogy

Credits: 2

Study of low string technique and related teaching methods. Intended for teachers of string, concert/jazz bands and vocal music if they use a bass with accompaniment combos for pit orchestras or swing choirs.

Repeat for Credit
N

Typically Offered
Summer

MUSIC 718 - Upper String Pedagogy

Credits: 2

Study of violin technique and related teaching methods, also applicable to other bowed string instruments.

Repeat for Credit
N

Typically Offered
Summer

MUSIC 719 - Marching Band Techniques

Credits: 2

Philosophical and practical purposes of the marching band, and the skills necessary to design, organize, instruct, and evaluate a marching band show.

Repeat for Credit
N

Typically Offered
Summer

MUSIC 720 - Choral Ensemble Techniques

Credits: 2

Philosophical and practical study of the choral ensemble, and the skills necessary to design, organize, instruct and evaluate the choral program.

Repeat for Credit
N

Typically Offered
Summer

MUSIC 721 - Jazz Techniques

Credits: 2

Basic practices found in jazz education, including literature, teaching techniques, and resource materials.

Repeat for Credit
N

Typically Offered
Summer

MUSIC 722 - Arranging for Bands

Credits: 2

Assessing, evaluating, and applying the basic issues, techniques, and possibilities inherent in scoring and arranging for various wind band media. Primary attention will be given to concert and marching bands, but students will also spend time learning about various jazz ensembles and other possible combinations of wind and percussion instruments.

Repeat for Credit
N

Typically Offered
Summer

K-State 8
Aesthetic Interpretation

MUSIC 723 - Arranging Choral Music

Credits: 2

Examination of basic compositional issues. Application of compositional techniques. Scoring and arranging for various choral ensembles.

Repeat for Credit
N

Typically Offered
Summer

MUSIC 724 - 18th Century Counterpoint

Credits: 2

Contrapuntal compositional techniques from the late Baroque to Classical periods, including compositional procedures for the canon and fugue.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 360, MUSIC 361.

Typically Offered
Fall, Summer

MUSIC 725 - Theories of Contemporary Music

Credits: 2

Introduction to analytical and compositional techniques applicable to the predominately non-tonal music of the 20th and 21st centuries.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 360, MUSIC 361.

Typically Offered
Spring, Summer

MUSIC 726 - History of the Opera

Credits: 3

A study of selected masterpieces of musical drama, with emphasis on the relationship of music and drama, and on the unique qualities of opera as a collective artwork.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 320.

Typically Offered
Other

MUSIC 727 - Introduction to Historical Performance Practice

Credits: 3

Studies the changing performance styles in music from the Middle Ages to the 18th century. Examines problems in the field of historical performance practices. Interpretation of musical performances (ornamentation, articulation, tuning, temperament, rhythmic elements, and tempo) based on contemporaneous sources. Students will perform short selections and prepare musical editions based on their findings.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 360

Typically Offered
Spring

MUSIC 728 - Advanced Instrumental Rehearsal Techniques

Credits: 2

Explore, evaluate, and develop the musical understanding and skills necessary in leading instrumental ensembles toward significant musical expression through effective rehearsal techniques.

Repeat for Credit
N

Typically Offered
Summer

MUSIC 729 - Advanced Choral Rehearsal Techniques

Credits: 2

Explore, evaluate, and develop the musical understanding and skills necessary in leading choral ensembles toward significant musical expression through effective rehearsal techniques.

Repeat for Credit
N

Typically Offered
Summer

MUSIC 730 - Organization and Administration of School Music Programs

Credits: 2

Provides models and ideas on organizing program/teaching to enable the teacher and students to succeed and enjoy the music making process. Present strategies and philosophies on dealing with administrators, parents, peers, and students will be discussed, as well as motivation of self and student.

Repeat for Credit
N

Typically Offered
Fall-Odd Years

MUSIC 731 - Music Business 1

Credits: 2

Provides students with the entrepreneurial tools for a career in music. Topics covered include: resumes, curriculum vitas, developing music websites, creating an on-line presence, tax protocol for musicians, goal-setting strategies, and meeting short and long-term music business goals

Repeat for Credit
N

Requisites
Prerequisite: Junior Standing

Typically Offered
Fall, Spring

MUSIC 732 - Music Business 2

Credits: 2

Explores elements of the music industry including business frameworks, legal topics, and interpersonal relations. Projects are individualized to the student's specialty area within the music industry.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 731

Typically Offered
Fall, Spring

MUSIC 733 - Music Marketing and Management Internship

Credits: 2

Students engage directly with the music industry though established internships in the area. Opportunites will vary by specialty and availability.

Note
Music 733 is the opportunity to engage in components of the music industry through various faculty facilitated internships or projects. The student will gain field experience, network, engage in large- and small-scale marketing structures, participate in career building projects, gain experience in administration, and audio-visual elements, and learn about management roles in both academic and professional situations. It will culminate in a data driven presentation or paper based on their cumulative internship experiences. Student internship types can vary based on specialty area and availability. Efforts will be made to match students with the best possible internship.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 731 and MUSIC 732

Typically Offered
Fall, Spring

MUSIC 734 - Technology of the Electronic Music Studio

Credits: 2

Instrumentation and systematic procedures as applied to the construction of electronic music. Principles of voltage-controlled systems, synchronous tape machines, and audio mixing. Individual and team projects.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 323 or instructor consent.

Typically Offered
Fall, Summer

MUSIC 735 - Digital Sound Synthesis

Credits: 2

Exploration of real-time interactive systems. Theory and application pertaining to the creation of instruments and scores using additive and FM techniques. Team projects.

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 734.

Typically Offered
On sufficient demand

MUSIC 737 - Organ Literature

Credits: 3

A survey of significant compositions from the Renaissance to the present with emphasis on performance practice.

Repeat for Credit
N

Typically Offered
Other

MUSIC 738 - Piano Literature

Credits: 3

Selective survey of music for piano from 1750 to the present.

Repeat for Credit
N

Typically Offered
Other

MUSIC 740 - Studies in Music Literature

Credits: 3

Study of the repertory of a selected musical genre or medium of performance.

Repeat for Credit
N

Typically Offered
Other

MUSIC 759 - Techniques of Music Technology

Credits: 2

Students develop skills of notation, scanning, manipulating, sequencing, and recording necessary to integrate digital technologies into the practice of music making and teaching.

Repeat for Credit
N

Typically Offered
Summer

MUSIC 766 - Seminar in the Life and Works of an Individual Composer

Credits: 3

Study of the career and achievements of a selected composer of major stature.

Repeat for Credit
Y

Typically Offered
Fall, Summer

MUSIC 767 - Topics in American Music

Credits: 3

Studies of the various genres of American music.

Repeat for Credit
Y

Typically Offered
On sufficient demand

MUSIC 791 - Advanced Vocal Pedagogy

Credits: 2

Advanced study of vocal production, exploring the scientific principles of breathing, resonance, timbre, and other vocal features. Discussion of vocal health and teaching styles.

Repeat for Credit
N

Typically Offered
Other

MUSIC 799 - Problems in Music

Credits: 1-18

Individual guided work in a selected area.

Note
No more than three hours of Problems in Music may be applied to the master's degree.

Repeat for Credit
Y

Requisites
Prerequisite: 6 hours graduate credit in music.

Typically Offered
Fall, Spring, Summer

MUSIC 801 - Introduction to Graduate Study in Music

Credits: 2

Library procedures, bibliography, research methods, and practice in preparing scholarly papers.

Note
Required of all graduate students in music.

Repeat for Credit
Y

Requisites
Prerequisite: At least 30 hours of music theory and music history.

Typically Offered
Other

MUSIC 802 - Seminar in Music Theory

Credits: 3

Comparison of major theoretical treatises and historical compositional practices; practical application for the modern musician.

Repeat for Credit
Y

Requisites
Prerequisite: Twenty hours of music theory.

Typically Offered
Other

MUSIC 803 - Seminar in Music History

Credits: 2

The history of music with emphasis on the correlation of stylistic factors and man's cultural environment.

Repeat for Credit
Y

Typically Offered
Summer

MUSIC 804 - Advanced Analysis

Credits: 3

An in-depth study of works by later Romantic and modern composers: techniques and styles in relation to form.

Repeat for Credit
N

Requisites
Prerequisite: Twenty hours music theory.

Typically Offered
Other

MUSIC 805 - Theories of Music Education

Credits: 3

A survey of the history of music teaching in the United States, with emphasis on the relationship of various theories of music, musical perception, and musical cognition to current practices in teaching music at all levels.

Repeat for Credit
N

Typically Offered
Fall-Even Years

MUSIC 806 - Psychology of Music

Credits: 3

Acquaints students with musical acoustics, perception and cognition of music, music learning, nature and testing of musical aptitude and achievement, affective response to music, musical preference, and the functionality of music.

Repeat for Credit
N

Typically Offered
Other

MUSIC 807 - History and Philosophy of Music Education

Credits: 3

The study of history and philosophy of music education in the U.S.

Repeat for Credit
N

Typically Offered
Spring-Even Years

MUSIC 808 - Research in Music Education

Credits: 3

An introduction to historical, descriptive, and experimental research in music education, including a study of techniques for the evaluation of music teaching and learning.

Repeat for Credit

Y

Typically Offered
Fall-Odd Years

MUSIC 809 - Seminar in Music Education

Credits: 3

Advanced studies of various topics related to the music.

Repeat for Credit
Y

Typically Offered
Other

MUSIC 810 - Curriculum Development and Learning Assessment

Credits: 3

MUSIC 810 focuses on development and implementation of comprehensive music education in K-12 public schools. Attention is given to sequential scaffolding of content within and across developmental levels, measuring student outcomes, and options for dissemination. Among factors studied will be evaluation materials, techniques, and design of reliable and valid measures.

Repeat for Credit
N

Typically Offered
Fall-Odd Years

MUSIC 811 - Symposium in Music

Credits: 2

Intensive short-term studies of various topics in music, featuring presentations by nationally known scholars in the field.

Repeat for Credit
Y

Typically Offered
Summer

MUSIC 813 - Improvisation and Composition in Elementary Curriculum

Credits: 3

Development of pedagogical practices in the areas of improvisation and composition as appropriate for the elementary music classroom.

Repeat for Credit
N

Typically Offered
Other

MUSIC 814 - World Music Pedagogy, Culturally Relevant Pedagogy, and Special Populations in Music Education

Credits: 3

Explores current issues facing music education, including culturally relevant pedagogy, world music pedagogy, special learners in music education, and popular music.

Repeat for Credit
N

Typically Offered
Summer

MUSIC 815 - The Undergraduate Music Curriculum

Credits: 1

Provides foundational understanding and developing skills in designing, administering, and assessing learning in an undergraduate music education curriculum. Focuses on preparing future music teacher educators for success in their future profession.

Repeat for Credit
N

Typically Offered
Fall

MUSIC 816 - Field Experiences in an Undergraduate Music Curriculum

Credits: 1

Prepares future music education professors to design, administer, and guide undergraduate music education field

experiences.

Repeat for Credit
N

Typically Offered
Spring

MUSIC 821 - Piano Pedagogy I

Credits: 3

Piano Pedagogy I focuses on how to teach and perform a broad spectrum of intermediate piano repertoire.

Repeat for Credit
N

Typically Offered
Fall

MUSIC 822 - Piano Pedagogy II

Credits: 3

Piano Pedagogy II teaches students how to teach and perform selected advances-level piano repertoire by notable composers for the instrument.

Repeat for Credit
N

Typically Offered
Spring

MUSIC 823 - Supervised Teaching in Piano

Credits: 2

Students will be observed by the instructor and classmates teaching lessons and provide feedback and commentary in a masterclass format.

Repeat for Credit
N

Typically Offered
Fall, Spring

MUSIC 824 - Half Recital in Piano

Credits: 1

Students will present a 30 minute recital demonstrating proficiencies as defined by the instructor.

Repeat for Credit
N

Typically Offered
Fall, Spring

MUSIC 825 - Lecture Recital in Piano

Credits: 1

Students will present a lecture-recital that will be a musically-illustrated presentation on some aspect if piano pedagogy.

Repeat for Credit
N

Typically Offered
Fall, Spring

MUSIC 828 - Methods and Materials for the Studio

Credits: 1-3

Methods of teaching fundamental techniques; selection of teaching materials outlining courses of study. For graduate students in performance curricula. Taught in divisions according to the major. Practical application through supervised studio teaching.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MUSIC 830 - Seminar in Medieval and Renaissance Music

Credits: 3

In-depth investigation of a selected area or problem in medieval or Renaissance music. Emphasis on individual research.

Repeat for Credit

Y

Typically Offered
Other

MUSIC 832 - Seminar in Baroque Music

Credits: 3

In-depth investigation of a selected area or problem in Baroque music. Emphasis on individual research.

Repeat for Credit
Y

Typically Offered
Other

MUSIC 834 - Seminar in Classical Music

Credits: 3

In-depth investigation of a selected area or problem in classical music. Emphasis on individual research.

Repeat for Credit
Y

Typically Offered
Other

MUSIC 836 - Seminar in Romantic Music

Credits: 3

In-depth investigation of a selected area or problem in Romantic music. Emphasis on individual research.

Repeat for Credit
Y

Typically Offered
Other

MUSIC 837 - Seminar in 20th-Century Music

Credits: 3

In-depth investigation of a selected area or problem in twentieth-century music. Emphasis on individual research.

Repeat for Credit
Y

Typically Offered
Other

MUSIC 838 - Opera Theatre

Credits: 0-18

Opera workshop for graduates.

Repeat for Credit
Y

Typically Offered
Fall, Spring

MUSIC 839 - Vocal Ensemble

Credits: 0-1

Performance and study with established University vocal organization or small ensemble.

Repeat for Credit
Y

Typically Offered
Fall, Spring

MUSIC 840 - Instrumental Ensemble

Credits: 0-1

Performance and study with an established University instrumental organization or a small ensemble.

Note
Students may enroll in more than one instrument simultaneously and may earn 1 to 4 hours per semester in each instrument.

Repeat for Credit
Y

Typically Offered
Fall, Spring

MUSIC 841 - Collegium Musicum Early Music Ensemble

Credits: 0-1

A vocal and instrumental ensemble devoted to the historically-informed performance of music written primarily during the Medieval, Renaissance, and Baroque periods (c. 1100-1750. Instruments of the historical period used when possible.

Repeat for Credit
Y

Typically Offered
Fall, Spring

MUSIC 842 - Concert Choir

Credits: 0-1

Concert Choir

Repeat for Credit
Y

Typically Offered
Fall, Spring

MUSIC 843 - Symphony Orchestra

Credits: 0-1

Symphony Orchestra

Repeat for Credit
Y

Typically Offered
Fall, Spring

MUSIC 844 - Concert Jazz Ensemble

Credits: 0-1

Concert Jazz Ensemble

Repeat for Credit
Y

Typically Offered
Fall, Spring

MUSIC 845 - Wind Ensemble-Wind Symphony

Credits: 0-1

Performing Ensemble for Graduate Instrumentalists. Audition Required.

Repeat for Credit
Y

Typically Offered
Fall, Spring

MUSIC 846 - Marching Band - Graduate Level

Credits: 0-1

Athletic Band Performing at Football Events.

Repeat for Credit
Y

Typically Offered
Fall

MUSIC 847 - Cat Band - Graduate Level

Credits: 0-1

Athletic Band Performing at Volleyball and Basketball Events.

Repeat for Credit
Y

Typically Offered
Spring

MUSIC 848 - Concert Band

Credits: 0-1

Using a player-pool concept, the ensemble will explore outstanding and varied wind literature. Repertoire may range from a classical octet to a one-on-a-part performance of a major large band work. Admission by audition.

Repeat for Credit
Y

Typically Offered
Fall, Spring

MUSIC 854 - Graduate Secondary Applied Performance

Credits: 1-3

For graduate students who wish to study an instrument (or voice) other than the major performance area. Pedagogical methods and fundamentals are stressed.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

MUSIC 855 - Graduate-Level Performance

Credits: 1-18

Instruction is offered every semester in voice and each of the following instruments: baritone, bassoon, clarinet, double bass, early winds, flute, french horn, guitar, harpsichord, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, viola da gamba, violin, and violoncello.

Note
Students may enroll in more than one instrument simultaneously and may earn 1 to 4 hours per semester in each instrument.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MUSIC 857 - Advanced Composition

Credits: 1-2

Advanced Composition

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

MUSIC 858 - Advanced Choral Conducting

Credits: 1-2

Exercises and techniques to refine the conducting gesture; techniques of noted choral conductors; and score study.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

MUSIC 859 - Advanced Instrumental Conducting

Credits: 1-2

Advanced Instrumental Conducting

Repeat for Credit
N

Requisites
Prerequisite: MUSIC 365 and consent of instructor.

Typically Offered
Fall, Spring, Summer

MUSIC 885 - Advanced Diction

Credits: 1

Concentrated study of Italian, German, and French diction for singing. Materials are related to work in the voice studio, and concurrent registration in MUSIC 855 is required.

Repeat for Credit
N

Typically Offered
On sufficient demand

MUSIC 898 - Master's Report in Music

Credits: 0-18

Independent directed research leading to master's report.

Repeat for Credit
Y

Requisites
Prerequisite: sixteen hours graduate credit in music.

Typically Offered
Fall, Spring, Summer

MUSIC 899 - Research in Music

Credits: 1-18

Independent research that may lead to master's thesis.

Repeat for Credit
Y

Requisites
Prerequisite: sixteen hours graduate credit in music.

Typically Offered
Fall, Spring, Summer

NE 350 - Reactor Operations Laboratory

Credits: 3

A basic course in reactor operator licensing, nuclear safety, and reactor operations with structured laboratory exercises.

Note
Two hours lecture and one three-hour lab per week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 214.

Typically Offered
Fall, Spring, Summer

NE 415 - Introduction to Engineering Analysis

Credits: 3

Introduction to analytical, statistical, and numerical analysis, including computer programming, as applied to engineering.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 211 or 221.

Typically Offered
Fall

NE 495 - Elements of Nuclear Engineering

Credits: 3

Survey of nuclear engineering concepts and applications. Nuclear reactions, radioactivity, radiation interaction with matter, reactor physics, risk and dose assessment, applications in medicine, industry, agriculture, and research.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 221, PHYS 213.

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives

NE 497 - Undergraduate Research Experience

Credits: 0-3

Open to students pursuing undergraduate research projects.

Repeat for Credit
Y

Typically Offered
Fall, Spring

NE 585 - Nuclear Engineering Design Projects

Credits: 3

In-depth application of design principles, engineering analyses, and experimental methods to a nuclear engineering design project addressing design, analysis, constraints,

standards, fabrication, and testing.

Note
Majors only

Repeat for Credit
N

Requisites
Prerequisite: ME 574 and NE 690 and NE 612 and NE 630 and NE 650

Typically Offered
Spring

NE 602 - Radiation Transport Simulation and Modeling

Credits: 3

Become proficient in solving nuclear radiation transport problems using common Monte Carlo simulation software, including an open-source interface package called TOPAS for the Geant4 toolkit. Obtain capability to simulate shielding problems, dose rate problems, and radiation sensing problems students will encounter in required nuclear engineering courses and in research.

Note
A student may take either NE 602 or NE 802 for credit, but not both.

Repeat for Credit
N

Requisites
Prerequisite: NE495

Typically Offered
Fall

NE 612 - Principles of Radiation Detection

Credits: 3

Operating principles and general properties of devices used in the detection and characterization of ionizing radiation. Fundamental methods of data interpretation and presentation.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: NE 495.

Typically Offered
Spring

NE 620 - Problems in Nuclear Engineering

Credits: 1-18

Specific studies in current and advanced problems in various phases of nuclear engineering.

Note
Consult program director.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

NE 630 - Nuclear Reactor Theory

Credits: 3

Theory of neutron diffusion and thermalization with application to steady-state nuclear reactors.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: MATH 340, NE 495.

Typically Offered
Fall

NE 635 - Generation IV Reactor Design

Credits: 3

Introduction to the complex field of nuclear reactor design, with emphasis on Gen IV reactor technology. Discussion topics include nuclear power cycles, the nuclear fuel cycle, the reactor design process, and reactor safety. The conceptual design of an advanced nuclear reactor based on

a candidate Generation IV technology.

Note
Three hours lecture.

Repeat for Credit
N

Requisites
Prerequisite: NE 630.

Typically Offered
Spring

NE 640 - Nuclear Reactor Thermal Hydraulics

Credits: 3

Engineering principles underlying the design and operation of nuclear power plant components and systems. Fundamentals of nuclear energy generation, heat transport, and single- and two-phase flows.

Repeat for Credit
N

Requisites
Prerequisite: NE 495
Corequisite: ME 573

Typically Offered
Spring

NE 648 - Nuclear Reactor Laboratory

Credits: 3

Theory and measurement of nuclear and reactor parameters of fundamental importance to nuclear reactors and their operation.

Note
Two hours lecture and three hours lab. a week.

Repeat for Credit
N

Requisites
Prerequisite: NE 612 and NE 630.

Typically Offered
Spring

NE 650 - Nuclear Fuel Cycles

Credits: 3

Examines the various aspects of the processing of nuclear fuel including mining, milling, conversion, enrichment, fabrication, irradiation, shipping, reprocessing, and waste disposal. Compares in-core and out-of-core nuclear fuel management. Presents nuclear fuel cycle economics.

Repeat for Credit
N

Requisites
Prerequisite: MATH 340 and NE 415

Typically Offered
Spring

NE 690 - Radiation Protection and Shielding

Credits: 3

Basic concepts of radiation protection, doses, associated risks, and exposure limits. Properties of natural and other radiation sources, and evaluation of internal and external doses. Techniques for shield design including ray, point kernel, and transport theories for both neutrons and gamma rays.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: NE 495, PHYS 214, MATH 340.

Typically Offered
Fall

NE 691 - Principles of Radiation and Human Health

Credits: 3

Explores characterization of human health effects due to ionizing and nonionizing radiation exposure. Includes radiation health effects; radiation sources; radiation interactions with biological material; computational methods for exposure assessment; limits and safety guidelines; and risk analysis.

Note
A student may take either NE 691 or NE 891 for credit, but not both.

Repeat for Credit
N

Requisites
Prerequisite: ME 400 or CIS 200; NE 690

Typically Offered
Spring-Even Years

NE 730 - Applied Reactor Physics

Credits: 3

Principles of reactor physics as used in practice. Topics include the fundamentals of nuclear data processing, pin- and lattice-level analysis for generation of multigroup constants, and full-core models of nuclear reactors based on multigroup diffusion theory. Throughout, students will use commercial-grade software, including CASMO 4 and SIMULATE 3, to complete computational laboratory assignments.

Repeat for Credit
N

Requisites
Prerequisite: NE 630 and ME 400.

Typically Offered
Spring-Even Years

NE 737 - Intermediate Radiation Measurement Applications

Credits: 3

The course will cover physical principles and mathematical modeling of radiation-based measurement systems used in medical and non-medical applications. Topics include measurement principles and inverse methods, radio-gauging, radio-tracing, quantitative analysis methods, imaging with ionizing radiation, and radiation scanning.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: NE 612, NE 690.

Typically Offered
Spring-Odd Years

NE 740 - Nuclear Systems and Design

Credits: 3

Principles underlying the design and operation of nuclear systems with emphasis on nuclear power reactors. Energy generation and removal in heat transfer fluids, reactor and component control systems and nuclear fuel reloading patterns. Design philosophy of existing, advanced and passively safe nuclear reactors will be covered.

Repeat for Credit
N

Requisites
Prerequisite: ME 573.

Typically Offered
Fall

NE 761 - Radiation Measurement Systems

Credits: 3

Execute methods and techniques to acquire, process, display, and interpret electrical signals from the most common types of radiation sensors with focus on the complexity of gamma-ray spectroscopy and the sensing applications of detection, localization, and isotope identification.

Note
A student may take either NE 761 or NE 861 for credit, but not both.

Repeat for Credit
N

Requisites
Prerequisite: NE 612.

Typically Offered
Fall-Odd Years

NE 799 - Special Topics in Nuclear Engineering

Credits: 0-18

Topical material of importance in nuclear engineering, such as controlled thermonuclear reactions, numerical analysis, Monte Carlo methods in radiation transport, effects of nuclear explosions, etc.

Note
Consent of program director.

Repeat for Credit
Y

Typically Offered
On sufficient demand

NE 802 - Radiation Transport Simulation and Modeling

Credits: 3

Become proficient in solving nuclear radiation transport problems using and developing common Monte Carlo simulation software, including a new interface package called TOPAS for the Geant4 toolkit. Obtain capability to simulate shielding problems, dose rate problems, and radiation sensing problems to support experiments and analysis in research.

Note
A student may take either NE 602 or NE 802 for credit, but not both.

Repeat for Credit
N

Requisites
Grad bypass.

Typically Offered
Fall

NE 806 - Neutronics

Credits: 3

Particle transport, theories of diffusion, numerical analysis of diffusion, transient core analysis.

Note
Three hours recitation a week.

Repeat for Credit
Y

Requisites
Prerequisite: NE 630.

Typically Offered
Fall

NE 810 - Graduate Problems in Nuclear Engineering

Credits: 1-18

Specific studies in advanced problems in various phases of nuclear engineering.

Note
Consent of program director.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing

Typically Offered
Fall, Spring, Summer

NE 851 - Nuclear Engineering Laboratory

Credits: 2

Design of experiments for the TRIGA nuclear reactor.

Note
Six hours lab a week.

Repeat for Credit
Y

Requisites
Prerequisite: NE 630 and NE 648.

Typically Offered
On sufficient demand

NE 860 - Advanced Topics in Nuclear Engineering

Credits: 1-18

A presentation of various special topics covering advanced

nuclear engineering specialties.

Note
Consent of program director.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing

Typically Offered
Fall, Spring, Summer

NE 861 - Advanced Radiation Measurement Systems

Credits: 3

Execute methods and techniques to acquire, process, display, and interpret electrical signals from the most common types of radiation sensors with focus on the complexity of gamma-ray spectroscopy and the sensing applications of detection, localization, and isotope identification.

Note
A student may take either NE 761 or NE 861 for credit, but not both.

Repeat for Credit
N

Requisites
Prerequisite: NE 612.

Typically Offered
Fall-Odd Years

NE 891 - Advanced Radiation and Human Health

Credits: 3

Explores characterization of human health effects due to ionizing and nonionizing radiation exposure. Includes radiation health effects; radiation sources; radiation interactions with biological material; computational methods for exposure assessment; limits and safety guidelines; and risk analysis. Application of state-of-the-art exposure and risk assessment.

Note
A student may take either NE 691 or NE 891 for credit, but not both.

Repeat for Credit
N

Requisites
Prerequisite: ME 400 or CIS 200; NE 690.

Typically Offered
Spring-Even Years

NE 898 - Master's Report

Credits: 0-18

Topics selected with approval of major professor and department head.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

NE 899 - Master's Thesis

Credits: 1-18

Topics selected with approval of major professor and program director.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

NE 998 - Selected Advanced Topics in Nuclear Engineering

Credits: 0-18

Current topics of interest in nuclear engineering at an advanced level, such as controlled thermonuclear reactions, numerical analysis, Monte Carlo methods in radiation transport, etc.

Note
Consent of program director.

Repeat for Credit
Y

Typically Offered
Spring

NE 999 - Dissertation Research

Credits: 1-18

Topics selected with approval of major professor and program director.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PAS 700 - Applied Anatomy and Physiology I

Credits: 4

Intensive study of human anatomy and physiology with clinical application of medical terminology. Designed to develop the PA student's working knowledge and understanding of the general structures and functional principles of the human body. Clinically relevant areas of radiographic imaging, surface anatomy, and clinical case correlations are integrated in course. Students will acquire anatomic knowledge with clinical application through cadaveric laboratory experience to include human and/or virtual dissection. Develops a strong foundation for the study of pathophysiology and disease states.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the PA Program

Typically Offered
Spring

PAS 710 - PA Profession

Credits: 1

Explores the history of the Physician Assistant (PA) profession, the role of the PA in today's health care system, and the factors affecting the PA. Designed to aid the student's transition into the medical profession, and serve as an introduction to multiple professional practice issues.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the PA program.

Typically Offered
Spring

PAS 711 - Applied Anatomy and Physiology II

Credits: 4

The second of two intensive human anatomy and physiology courses. Designed to develop the PA student's working knowledge and understanding of the human body's general structures and functional principles. Clinically relevant areas of radiographic imaging, surface anatomy, and clinical case correlations are integrated. Students will acquire anatomic knowledge with clinical application through the virtual dissection experience. Develops a strong foundation for the study of pathophysiology and disease states.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the PA Program and PAS 700

Typically Offered
Summer

PAS 720 - Evidence Based Medicine

Credits: 1

Intensive study in evidence based medicine and critical thinking about the information and evidence needed to produce clinical decisions. The student will be prepared to cope with the vast amount of medical literature produced every year. The course is structured to equip the student to effectively evaluate medical literature, and apply the information acquired to clinical decision making in the provision of individualized patient care.

Note
Intended for Master of Science in Physician Assistant Studies (MPAS) program or Athletic Training M.S. (MATHR) program students.

Repeat for Credit

N

Requisites
Prerequisite: Admission to the Master of Science in Physician Assistant Studies (MPAS) program or Athletic Training (M.S.) (MATHR) program.

Typically Offered
Fall

PAS 721 - Medical Genetics

Credits: 1

Will review the basic principles of medical genetics and its application to clinical practice. Students will learn to obtain a detailed family history, and assess possible modes of inheritance. This involves the ability to understand the medical genetics literature, as well as the clinical application of genetic knowledge in the care of individual patients. Ethical principles related to genetic evaluation, testing, and diagnosis will be discussed. The underlying etiology, clinical presentation, evaluation, diagnosis, prognosis, and treatment options of specific genetic disorders will be reviewed.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the PA program.

Typically Offered
Summer

PAS 722 - Clinical Geriatrics

Credits: 2

Designed to provide an overview of the aging population and age-related disorders, and correlates theory and clinical practice in providing care to the geriatric population. The adjustment of older adults to degenerative changes, nursing home placement, and alternatives to placement in long term care facilities are discussed. Concepts relevant to pathophysiology, nutrition, pharmacology, psychosocial development, and ethical/legal responsibilities are emphasized using an evidence-based and functional approach.

Repeat for Credit
N

Requisites
Prerequisite: PAS 780.

Typically Offered
Fall

PAS 731 - Clinical Pediatrics

Credits: 2

Course introduces the PA student to pediatric medicine. Focuses on the physiological and psychological fundamentals of child development, major common pediatric illnesses, various immunizations and medications used in pediatrics, pediatric emergencies, and the management of both healthy and ill infants, children and adolescents.

Repeat for Credit
N

Requisites
Prerequisite: PAS 780.

Typically Offered
Summer

PAS 732 - Psychiatry & Behavioral Medicine

Credits: 2

Course will present an introduction to the neurobiological, psychobiological, emotional, social, and cultural influences on mental health and illness of diverse patient populations with acute and chronic conditions across the lifespan, including end-of-life care, and will integrate human physical and psychological development, human sexuality, and responses to stress, injury, illness and death. Also incorporated is the training in substance use, abuse, addiction, and treatment adherence issues. Principles of violence identification and prevention will be examined, and basic counseling skills and instruments for the evaluation and management of psychiatric disorders will be presented.

Repeat for Credit
N

Requisites
Prerequisite: PAS 780.

Typically Offered
Fall

PAS 740 - Clinical Procedures I

Credits: 2

Designed to allow students to become competent in a variety of patient care skills. Skills are sequenced to the body systems being covered in the physical diagnosis course. Allows students to safely apply the medical-decision making process, and learn the procedural skills in a simulated environment. Course will utilize simulators, task trainers and standardized patient experiences.

Repeat for Credit
N

Requisites
Prerequisite: Admission to PA program.

Typically Offered
Spring

PAS 741 - Clinical Procedures II

Credits: 2

Designed to allow students to become competent in a variety of patient care skills. Skills are sequenced to the body systems being covered in the physical diagnosis course. Allows students to safely apply the medical-decision making process, and learn the procedural skills in a simulated environment. Course will utilize simulators, task trainers and standardized patient experiences.

Repeat for Credit
N

Requisites
Prerequisite: PAS 740.

Typically Offered
Summer

PAS 742 - Clinical Procedures III

Credits: 2

Designed to allow students to become competent in a variety of patient care skills. Skills are sequenced to the body systems being covered in the physical diagnosis course. Allows students to safely apply the medical-decision making process, and learn the procedural skills in a simulated environment. Course will utilize simulators, task trainers and standardized patient experiences.

Repeat for Credit
N

Requisites
Prerequisite: PAS 741.

Typically Offered
Fall

PAS 750 - Physical Diagnosis I

Credits: 2

Designed to provide training on the skills and competencies necessary for obtaining a patient's medical history, and performing a physical examination. Includes an approach to patient interviewing, acquiring clinical information, organizing and processing this information, and presenting it in a clear and concise manner. This will be achieved by learning examination techniques through lectures, small group settings, faculty mentoring, practicum examinations, and select body system specialty exams.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the PA program.

Typically Offered
Spring

PAS 751 - Physical Diagnosis II

Credits: 2

Designed to provide training on the skills and competencies necessary for obtaining a patient's medical history, and performing a physical examination. Includes an approach to patient interviewing, acquiring clinical information, organizing and processing this information, and presenting it in a clear and concise manner. This will be achieved by learning examination techniques through lectures, small group settings, faculty mentoring, practicum examinations, and select body system specialty exams.

Repeat for Credit
N

Requisites
Prerequisite: PAS 750.

Typically Offered
Summer

PAS 752 - Physical Diagnosis III

Credits: 2

Designed to provide training on the skills and competencies necessary for obtaining a patient's medical history, and performing a physical examination. Includes an approach to patient interviewing, acquiring clinical information, organizing and processing this information, and presenting it in a clear and concise manner. This will be achieved by learning examination techniques through lectures, small group settings, faculty mentoring, practicum examinations, and select body system specialty exams.

Repeat for Credit
N

Requisites
Prerequisite: PAS 751.

Typically Offered
Fall

PAS 760 - Diagnostics I - Laboratory

Credits: 2

First of a three-part series designed to introduce the student to clinical diagnostics in medicine. Presents a foundation for understanding the appropriate use and interpretation of diagnostic testing. Various diagnostic tests will be reviewed to allow the student to differentiate normal from abnormal values, and provide the basis for selection, utilization, and interpretation of the tests used to evaluate principal functions of body systems, and their correlation to clinical conditions.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the PA program.

Typically Offered
Spring

PAS 761 - Diagnostics II - EKG

Credits: 2

Second of a three-part series designed to introduce the student to clinical diagnostics in medicine. Presents a foundation for understanding the appropriate use and interpretation of diagnostic testing. Various diagnostic tests will be reviewed to allow the student to differentiate normal from abnormal values, and provide the basis for selection, utilization, and interpretation of the tests used to evaluate principal functions of body systems, and their correlation to clinical conditions.

Repeat for Credit
N

Requisites
Prerequisite: PAS 760.

Typically Offered
Summer

PAS 762 - Diagnostics III - Radiology

Credits: 2

Third of a three-part series designed to introduce the student to clinical diagnostics in medicine. Presents a foundation for understanding the appropriate use and interpretation of diagnostic testing. Various diagnostic tests will be reviewed to allow the student to differentiate normal from abnormal values, and provide the basis for selection, utilization, and interpretation of the tests used to evaluate principal functions of body systems, and their correlation to clinical conditions.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the PA program.

Typically Offered
Fall

PAS 770 - Applied Pathophysiology I

Credits: 2

Designed to develop the PA student's working knowledge and comprehensive understanding of the pathophysiological principles of the human body. An intensive study of pathology of the human body, which explores the etiology of organic and systemic disease, providing an insight into the disordered physiological changes resulting from specific disease processes. Provides

the necessary linkage between the basic sciences and the clinical presentation of disease states.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the PA program.

Typically Offered
Spring

PAS 771 - Applied Pathophysiology II

Credits: 2

Designed to develop the PA student's working knowledge and comprehensive understanding of the pathophysiological principles of the human body. An intensive study of pathology of the human body, which explores the etiology of organic and systemic disease, providing an insight into the disordered physiological changes resulting from specific disease processes. Provides the necessary linkage between the basic sciences and the clinical presentation of disease states.

Repeat for Credit
N

Requisites
Prerequisite: PAS 770.

Typically Offered
Summer

PAS 772 - Applied Pathophysiology III

Credits: 2

Designed to develop the PA student's working knowledge and comprehensive understanding of the pathophysiological principles of the human body. An intensive study of pathology of the human body, which explores the etiology of organic and systemic disease, providing an insight into the disordered physiological changes resulting from specific disease processes. Provides the necessary linkage between the basic sciences and the clinical presentation of disease states.

Repeat for Credit
N

Requisites
Prerequisite: PAS 771.

Typically Offered
Fall

PAS 780 - Clinical Medicine I

Credits: 6

The first in a series of three courses designed to guide the development of problem-solving skills in the medical decision-making process. This course uses a body systems approach to thoroughly study diseases/disorders encountered in primary care practice. Medical knowledge includes the epidemiology, etiology, pathophysiology, clinical manifestations, diagnosis, management and patient education of diseases/disorders. Instruction includes providing care to preventive, emergent, acute, chronic, adolescent, adult, and elderly populations as it applies to disease processes. Instruction will consist of lectures, problem/case-based learning, and small group collaboration.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the PA Program

Typically Offered
Spring

PAS 781 - Clinical Medicine II

Credits: 6

The second in a series of three courses designed to guide the development of problem-solving skills in the medical decision-making process. This course uses a body systems approach to thoroughly study diseases/disorders encountered in primary care practice. Medical knowledge includes the epidemiology, etiology, pathophysiology, clinical manifestations, diagnosis, management and patient education of diseases/disorders. Instruction includes providing care to preventive, emergent, acute, chronic, adolescent, adult, and elderly populations as it applies to disease processes. Instruction will consist of lectures, problem/case-based learning, and small group collaboration.

Repeat for Credit
N

Requisites
Prerequisite: PAS 780, Clinical Medicine I

Typically Offered
Summer

PAS 782 - Clinical Medicine III

Credits: 7

The third in a series of three courses designed to guide the development of problem-solving skills in the medical decision-making process. This course uses a body systems approach to thoroughly study diseases/disorders encountered in primary care practice. Medical knowledge includes the epidemiology, etiology, pathophysiology, clinical manifestations, diagnosis, management and patient education of diseases/disorders. Instruction includes providing care to preventive, emergent, acute, chronic, adolescent, adult, and elderly populations as it applies to disease processes. Instruction will consist of lectures, problem/case-based learning, and small group collaboration.

Repeat for Credit
N

Requisites
Prerequisite: PAS 781, Clinical Medicine II

Typically Offered
Fall

PAS 790 - Pharmacology I

Credits: 2

Designed as a survey of pharmacology, course emphasizes the fundamentals of drug absorption, distribution, metabolism, and elimination. Course focuses on the relationship between drugs and receptors, adverse drug reactions, toxicity, and drug indications and contraindications. Utilizing evidence-based medicine, pharmacotherapeutics with application to patient care is also incorporated.

Repeat for Credit
N

Requisites
Prerequisite: Admission to the PA program.

Typically Offered
Spring

PAS 791 - Pharmacology II

Credits: 2

Designed as a survey of pharmacology, course emphasizes the fundamentals of drug absorption, distribution, metabolism, and elimination. Course focuses on the relationship between drugs and receptors, adverse drug reactions, toxicity, and drug indications and contraindications. Utilizing evidence-based medicine, pharmacotherapeutics with application to patient care is also incorporated.

Repeat for Credit
N

Requisites
Prerequisite: PAS 790.

Typically Offered
Summer

PAS 792 - Pharmacology III

Credits: 2

Designed as a survey of pharmacology, course emphasizes the fundamentals of drug absorption, distribution, metabolism, and elimination. Course focuses on the relationship between drugs and receptors, adverse drug reactions, toxicity, and drug indications and contraindications. Utilizing evidence-based medicine, pharmacotherapeutics with application to patient care is also incorporated.

Repeat for Credit
N

Requisites
Prerequisite: PAS 791.

Typically Offered
Fall

PAS 800 - Family Medicine I - SCPE

Credits: 4

A supervised clinical practice experience designed to give students the opportunity to participate in the medical

decision-making process while developing the appropriate knowledge, skills, and abilities to provide care in the ambulatory outpatient family medicine clinic. The course will deliver education on providing comprehensive evidence-based, gender/age specific individualized care, addressing acute and chronic diseases, health promotion and disease prevention in the context of each patient's social, economic, cultural and religious background. Students will engage with the interprofessional team, and behave as a medical professional with patients, families and other members of the medical team.

Repeat for Credit
N

Requisites
Successful completion of clinical orientation and didactic phase of the PA program (B or better in PAS 700-792).

Typically Offered
Spring

PAS 810 - Family Medicine II - SCPE

Credits: 4

A supervised clinical practice experience designed to give students the opportunity to participate in the medical decision-making process while developing the appropriate knowledge, skills, and abilities to provide care in the ambulatory outpatient family medicine clinic. The course will deliver education on providing comprehensive evidence-based, gender/age specific individualized care, addressing acute and chronic diseases, health promotion and disease prevention in the context of each patient's social, economic, cultural and religious background. Students will engage with the interprofessional team, and behave as a medical professional with patients, families and other members of the medical team.

Repeat for Credit
N

Requisites
Successful completion of clinical orientation and didactic phase of the PA program (B or better in PAS 700-792).

Typically Offered
Fall, Spring, Summer

PAS 820 - Internal Medicine - SCPE

Credits: 4

A supervised clinical practice experience designed to give students the opportunity to participate in the medical decision making process while developing the appropriate knowledge, skills and abilities to provide care in the in/outpatient internal medicine practice. Students will encounter a full range of experiences to include, preventative care, acute and chronic illness, and palliative/end of life care in the context of each patient's social, economic, cultural and religious background. Students will have the opportunity to work as part of the primary team while coordinating with subspecialist, and interdisciplinary allied health professionals.

Repeat for Credit
N

Requisites
Successful completion of clinical orientation and didactic phase of the PA program (B or better in PAS 700-792).

Typically Offered
Fall, Spring, Summer

PAS 830 - Emergency Medicine - SCPE

Credits: 4

A supervised clinical practice experience designed to give students the opportunity to participate in the medical decision making process while developing the appropriate knowledge, skills and abilities to provide care in the emergency medicine practice. The rotation will take place in emergency departments. This rotation allows students to establish triage skills, learn to recognize and manage conditions that need immediate attention and prioritize care for conditions that are less urgent. Students will engage with the interprofessional team and behave as a medical professional with patients, families and other members of the medical team.

Repeat for Credit
N

Requisites
Successful completion of clinical orientation and didactic phase of the PA program (B or better in PAS 700-792).

Typically Offered
Fall, Spring, Summer

PAS 840 - Pediatric Medicine - SCPE

Credits: 4

A supervised clinical practice experience designed to give students the opportunity to participate in the medical decision making process while developing the appropriate knowledge, skills and abilities to provide care in a pediatric medicine practice. The course provides education in comprehensive, evidence-based, gender/age specific individualized care, addressing acute and chronic diseases (sick child), health promotion (well child) and disease prevention in the context of each patient's social, economic, cultural and religious background. Students will engage with the interprofessional team and behave as a medical professional with patients, families and other members of the medical team.

Repeat for Credit
N

Requisites
Successful completion of clinical orientation and didactic phase of the PA program (B or better in PAS 700-792).

Typically Offered
Fall, Spring, Summer

PAS 850 - Surgery - SCPE

Credits: 4

A supervised clinical practice experience designed to give students the opportunity to participate in the medical decision making process while developing the appropriate knowledge, skills and abilities to provide care in the surgical practice. The experiences in this rotation will include pre-operative, intra-operative (assisting) and post-operative surgical care. Students will engage with the interprofessional team and behave as a medical professional with patients, families and other members of the medical team.

Repeat for Credit
Y

Requisites
Successful completion of the PA program's clinical orientation and didactic phase (C or better in PAS 700-792).

Typically Offered
Fall, Spring, Summer

PAS 860 - Behavioral Medicine - SCPE

Credits: 4

A supervised clinical practice experience designed to give students the opportunity to participate in the medical decision making process while developing appropriate knowledge, skills and abilities to recognize and provide care for various behavioral/mental health problems. In settings such as in/outpatient behavioral/mental health facilities and multiservice centers, students will participate in behavioral/mental health evaluations, observe behavioral/mental therapy/interventions, and discuss management plans. Emphasis is on applying skills learned to treatment of behavioral/mental health issues in primary care. Students will engage with the interprofessional team, and behave as a medical professional with patients, families and other members of the medical team.

Repeat for Credit
N

Requisites
Successful completion of clinical orientation and didactic phase of the PA program (B or better in PAS 700-792).

Typically Offered
Fall, Spring, Summer

PAS 870 - Women's Health - SCPE

Credits: 4

A supervised clinical practice experience designed to give students the opportunity to participate in the medical decision making process while developing the appropriate knowledge, skills and abilities to provide care in a women's health medicine practice. Experiences include prenatal care, obstetric/gynecologic health histories, OB/GYN exams, evaluation and management planning. Emphasis is on applying skills learned to the treatment of OB/GYN health issues in primary care in the context of each patient's social, economic, cultural and religious background. Students will engage with the interprofessional team and behave as a medical professional with patients, families and other members of the medical team.

Repeat for Credit
N

Requisites
Successful completion of clinical orientation and didactic phase of the PA program (B or better in PAS 700-792).

Typically Offered
Fall, Spring, Summer

PAS 890 - Geriatric Medicine - SCPE

Credits: 4

A supervised clinical practice experience designed to give students the opportunity to participate in the medical decision-making process while developing the appropriate knowledge, skills, and abilities to provide care to the geriatric population. Students will be exposed to a variety of experiences including ambulatory practice, nursing facilities, assisted living centers, and hospice. The course will deliver education on providing comprehensive evidence-based, geriatric specific individualized care, addressing acute and chronic conditions, health promotion and disease prevention in the context of the elderly patient's social, economic, cultural and religious background. Students will engage with the interprofessional team and behave as a medical professional with patients, families and other members of the medical team.

Repeat for Credit
N

Requisites
Successful completion of clinical orientation and didactic phase of the PA program (B or better in PAS 700-792).

Typically Offered
Fall, Spring, Summer

PAS 891 - Orthopedics - SCPE

Credits: 4

A supervised clinical practice experience designed to give students the opportunity to participate in the medical decision-making process while developing the appropriate knowledge, skills, and abilities to provide care in orthopedics. The course will deliver education on providing comprehensive evidence-based, gender/age specific individualized care, addressing acute and chronic musculoskeletal conditions with and without surgical intervention, health promotion and disease prevention in the context of each patient's social, economic, cultural and religious background. Students will engage with the interprofessional team and behave as a medical professional with patients, families and other members of the medical team.

Repeat for Credit
N

Requisites
Successful completion of clinical orientation and didactic phase of the PA program (B or better in PAS 700-792).

Typically Offered
Fall, Spring, Summer

PAS 892 - Elective Experience I

Credits: 4

A supervised clinical practice experience selected by the student designed to give students the opportunity to develop appropriate knowledge, skills, and abilities in patient care, medical knowledge, practice based learning, communication, professionalism, interprofessional collaboration, system based practice and/or professional development. Options for students to achieve this include but are not limited to, additional experience in a required rotation; medical discipline of interest not encountered in the previous rotations; public health service; administration; and health policy.

Repeat for Credit
N

Requisites
Successful completion of all prior clinical rotations (B or better in PAS 800-891).

Typically Offered
Spring

PAS 895 - Summative

Credits: 2

Designed to prepare students for the final transition from student to medical provider. Didactic and clinical year grades, preceptor evaluations, and assignments specific to the Summative assessment will be reviewed to ascertain the student's ability to function as a successful graduate Physician Assistant. Physician Assistant practice topics will be covered, including certifying examination review, certification process, professional licensure, malpractice, professional career planning, contract negotiations, credentialing process and financial planning. Content will be delivered in lecture, lab and small groups.

Repeat for Credit
N

Requisites
Successful completion of Clinical Year Rotations (B or

better is PAS 800-892).

Typically Offered
Spring

PAV 101 - Private Pilot

Credits: 5

Awards academic credit for the Federal Aviation Administration Private Pilot certificate.

Note
This may be used as a substitute for PPIL 111 and 113 for the purpose of awarding academic credit for ratings earned elsewhere. This course may not be used to fulfill the requirements for Reduced ATP as outlined in the FAA-KSU LOA.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

PAV 102 - Instrument Pilot

Credits: 4

This course is offered to give academic credit for the Federal Aviation Administration Instrument Pilot rating.

Note
This may be used as a substitute for PPIL 112 and 114 for the purpose of awarding academic credit for ratings earned elsewhere. This course may not be used to fulfill the requirements for Reduced ATP as outlined in the FAA-KSU LOA.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

PAV 201 - Commercial Pilot

Credits: 7

This course is offered to give academic credit for the Federal Aviation Administration Commercial Pilot certificate.

Note
This may be used as a substitute for PPIL 211, 212, and 213 for the purpose of awarding academic credit for ratings earned elsewhere. This course may not be used to fulfill the requirements for Reduced ATP as outlined in the FAA-KSU LOA

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

PAV 202 - Additional Aircraft Category, Class, and/or Type Rating

Credits: 1-5

This course is offered to give academic credit for the Federal Aviation Administration additional aircraft category, class and/or type ratings. Credit will be given for one type rating only.

Note
This may not be used as a substitute for PPIL 262 and PPIL 263 in any program. Since the Professional Aviation degree option is specifically designed as a degree completion option for students that have significant aviation experience, credit will not be allowed for certificates or ratings earned after being accepted in the BATN-PA degree option.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

PAV 217 - Airframe A

Credits: 9

This course is offered to give partial academic credit for the Federal Aviation Administration Airframe certificate.

Note
This may not be used as a substitute for AVM courses in any program. Since the Professional Aviation degree option is specifically designed as a degree completion option for students that have significant aviation experience, credit will not be allowed for certificates or ratings earned after

being accepted in the BATN-PA degree option.

Repeat for Credit
N

Requisites
Corequisite: PAV 318

Typically Offered
Fall, Spring, Summer

PAV 227 - Powerplant A

Credits: 9

This course is offered to give partial academic credit for the Federal Aviation Administration Powerplant certificate.

Note
This may not be used as a substitute for AVM courses in any program. Since the Professional Aviation degree option is specifically designed as a degree completion option for students that have significant aviation experience, credit will not be allowed for certificates or ratings earned after being accepted in the BATN-PA degree option.

Repeat for Credit
N

Requisites
Corequisite: PAV 328

Typically Offered
Fall, Spring, Summer

PAV 301 - Instructor Pilot

Credits: 8

This course is offered to give academic credit for the Federal Aviation Administration Flight Instructor certificate.

Note
This may not be used as a substitute for PPIL 310, PPIL 311, PPIL 312 or PPIL 314 in any program. Since the Professional Aviation degree option is specifically designed as a degree completion option for students that have significant aviation experience, credit will not be allowed for certificates or ratings earned after being accepted in the BATN-PA degree option.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

PAV 302 - Airline Transport Pilot

Credits: 2

This course is offered to give academic credit for the Federal Aviation Administration Airline Transport Pilot certificate.

Note
This may not be used as a substitute for PPIL 385 in any program. Since the Professional Aviation degree option is specifically designed as a degree completion option for students that have significant aviation experience, credit will not be allowed for certificates or ratings earned after being accepted in the BATN-PA degree option.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

PAV 318 - Airframe B

Credits: 6

This course is offered to give partial academic credit for the Federal Aviation Administration Airframe certificate.

Note
This may not be used as a substitute for AVM courses in any program. Since the Professional Aviation degree option is specifically designed as a degree completion option for students that have significant aviation experience, credit will not be allowed for certificates or ratings earned after being accepted in the BATN-PA degree option.

Repeat for Credit
N

Requisites
Corequisite: PAV 217

Typically Offered
Fall, Spring, Summer

PAV 328 - Powerplant B

Credits: 6

This course is offered to give partial academic credit for the Federal Aviation Administration Powerplant certificate.

Note
This may not be used as a substitute for AVM courses in any program. Since the Professional Aviation degree option is specifically designed as a degree completion option for students that have significant aviation experience, credit will not be allowed for certificates or ratings earned after being accepted in the BATN-PA degree option.

Repeat for Credit
N

Requisites
Corequisite: PAV 227

Typically Offered
Fall, Spring, Summer

PAV 401 - Additional Flight Instructor Ratings

Credits: 1-4

This course is offered to give academic credit for the Federal Aviation Administration Instrument Flight Instructor certificate.

Note
This may not be used as a substitute for PPIL 482, PPIL 483, PPIL 492, or PPIL 493 in any program. Since the Professional Aviation degree option is specifically designed as a degree completion option for students that have significant aviation experience, credit will not be allowed for certificates or ratings earned after being accepted in the BATN-PA degree option.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

PAV 497 - Senior Capstone

Credits: 3

This is a culminating experience for the Professional Aviation option. Students will integrate the intellectual, creative, and expressive skills/knowledge they have cultivated in their undergraduate curriculum. Additionally, students will combine discipline-specific knowledge with communication and inquiry methods to solve problems and communicate mastery of their respective area of interest.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing and instructor consent.

Typically Offered
Fall, Spring

PFP 101 - Money 101

Credits: 1

This course provides an introduction to resources and tools available to assist students in developing beginning personal finance skills that will assist them throughout their lifetime. Application exercises will allow students to apply personal finance knowledge in solving real-life problems.

Note
This course has an online format.

Repeat for Credit
N

Typically Offered
Fall, Spring

PFP 105 - Introduction to Personal Financial Planning

Credits: 3

Fundamental principles for making financial decisions. Analysis and evaluation of personal and family money management strategies.

Repeat for Credit
N

Typically Offered

Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

PFP 300 - Problems in Personal Financial Planning

Credits: 0-3

Relevant topics in personal financial planning will be explored in a small group setting.

Repeat for Credit
Y

Typically Offered
On sufficient demand

PFP 305 - Advanced Personal Financial Planning

Credits: 3

In-depth applications of personal and family money management principles with emphasis on credit, savings, insurance, and budgeting.

Repeat for Credit
N

Requisites
Prerequisite: PFP 105 with grade of "B" or better or FINAN 450.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

PFP 315 - Love and Money

Credits: 3

Explores the connection between money and relationships. Understand the factors that influence how individuals, couples, and families perceive and manage money. Become familiar with current literature and research in this area. Gain insight into their own relationship with money and how it influences their relationships in order to enhance their ability to help and work with others experiencing financial difficulties.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

PFP 320 - Applied Behavioral Finance

Credits: 3

Introductory exploration of the field of behavioral finance and its relationship to personal and financial decision-making.

Repeat for Credit
N

Typically Offered
Spring

PFP 456 - Financial Counseling and Communication

Credits: 3

This course provides an introduction to the interactive process between the client and the practitioner, including communication techniques, motivation and esteem building, the counseling environment, ethics, and methods of data intake, verification, and analysis. Other topics include legal issues, compensation, uses of technology to identify resources, information management, and current or emerging issues.

Repeat for Credit
N

Typically Offered
Fall

PFP 460 - Retirement Planning Concepts

Credits: 3

This course surveys various types of retirement plans, ethical considerations in providing retirement planning services, assessing and forecasting financial needs in retirement, and integration of retirement plans with government benefits.

Repeat for Credit
N

Requisites
Prerequisite: PFP 305 or FINAN 450 with a grade of "C" or better

Typically Offered
Fall, Spring

PFP 462 - Personal Investment Concepts I

Credits: 3

An in-depth study of investment options for clients, this course will include common stocks, fixed income securities, convertible securities, and related choices. Relationships between investment options and employee/employer benefit plan choice will be studies. Current and emerging issues, and ethics will be an integral part of the course.

Repeat for Credit
N

Requisites
Prerequisite: FINAN 450 or Corequisite: PFP 305

Typically Offered
Fall

PFP 464 - Estate Planning Concepts

Credits: 3

This course provides an introduction to fundamentals of the estate planning process. Includes property transfer, tax consequences, probate avoidance, powers of appointment, and various tools/techniques used in implementing an effective estate plan.

Repeat for Credit
N

Requisites
Prerequisite: PFP 305 or FINAN 450 with a grade of "C" or better.

Typically Offered
Spring

PFP 466 - Personal Risk Management and Insurance Planning

Credits: 3

This course provides an analysis of risk management concepts, tools, and strategies for individuals and families, including: life insurance; property and casualty insurance; liability insurance; accident, disability, health, and long-term care insurance; and government-subsidized programs.

Repeat for Credit
N

Requisites
Prerequisite: FINAN 450 or Corequisite: PFP 305.

Typically Offered
Fall, Spring

PFP 468 - Professional Practice Management in PFP

Credits: 1

Issues and solutions for challenges of managing family financial planning practices.

Repeat for Credit
N

Requisites
Corequisite: PFP 105 or PFP 305

Typically Offered
Spring

PFP 472 - Personal Income Tax Concepts

Credits: 3

This course provides an introduction to personal income tax practices and procedures including tax regulations, tax return preparation, the tax audit process, the appeals process, preparation for an administrative or judicial forum, and ethical considerations of taxation. New and emerging issues related to taxation will be covered. Family/individual case studies provide practice in applying and analyzing tax information and recommending appropriate tax strategies.

Repeat for Credit
N

Requisites
Co-requisite: PFP 305.

Typically Offered
Fall, Summer

PFP 482 - Personal Investment Concepts II

Credits: 3

This course is designed to build off of PFP 462 (Personal Investment Concepts I) and to help students develop a better understanding of the available tools and procedures of investment planning for family and individual goal attainment. Lectures, reading, case studies, and problem sets are designed to help students in preparing for the Investment Planning section of the Certified Financial Planner™examination.

Repeat for Credit
N

Requisites
Prerequisite: PFP 462

Typically Offered
Spring

PFP 579 - Pre-Internship Orientation in Personal Financial Planning

Credits: 1

Consideration and application of professional knowledge and skills necessary for selection and placement in a financial planning firm for a supervised experience.

Repeat for Credit
N

Typically Offered
Fall

PFP 580 - Internship in Personal Financial Planning

Credits: 3

Internship experience in personal financial planning or an allied field.

Repeat for Credit
N

Typically Offered
Summer

PFP 595 - Capstone in Personal Financial Planning

Credits: 3

Examination of professional issues in personal financial planning, including ethical considerations, regulation and certification requirements, communication skills, and professional responsibility. Development of skills needed for personal financial planners working with families in meeting their financial needs.

Repeat for Credit
N

Requisites
Prerequisite: PFP 305, PFP 460, PFP 462, PFP 466, PFP 472 Co-requisite: PFP 464, PFP 482.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

PFP 624 - Fundamentals of Family Financial Planning

Credits: 3

This course provides an overview of family financial planning by integrating concepts and issues with planning and counseling applications. Students will be introduced to the key concepts of family financial planning, including: insurance, tax, investments, retirement, and estate planning. The family financial planning process is introduced with an emphasis on the integration and application of concepts in meeting individual and family financial goals and objectives. Other topics presented include an ethics overview, compensation trends within the industry, and regulatory frameworks.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

PFP 675 - Field Study in Family Economics

Credits: 1-3

Supervised experiences in financial planning, financial counseling, community action, or consumer services.

Note
Consent of School required

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PFP 756 - Financial Counseling

Credits: 3

Theory and research regarding the interactive process between the client and the practitioner, including communication techniques, motivation and esteem building, the counseling environment, ethics, and methods of data intake, verification, and analysis. Other topics include legal issues, compensation, uses of technology to identify resources, information management, and current or emerging issues.

Repeat for Credit
N

Requisites
Prerequisite:KSU cumulative GPA of 2.5 or higher.

Typically Offered
Fall

PFP 760 - Retirement Planning for Families

Credits: 3

Study of micro and macro considerations for retirement planning. Survey of various types of retirement plans, ethical considerations in providing retirement planning services, assessing and forecasting financial needs in retirement, and integration of retirement plans with government benefits.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 305 or FINAN 450 with a grade of "B" or better and KSU cumulative GPA of 2.5 or higher.

Typically Offered
Fall

PFP 762 - Investing for the Family's Future I

Credits: 3

An in-depth study of investment options for clients, this course will include common stocks, fixed income securities, convertible securities, and related choices. Relationships between investment options and employee/employer benefit plan choice will be studied. Current and emerging issues, and ethics will be an integral part of the course.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 305 or FINAN 450 with a grade of "B" or better and KSU cumulative GPA of 2.5 or higher.

Typically Offered
Spring

PFP 764 - Estate Planning for Families

Credits: 3

Introduction to fundamentals of the estate planning process. Includes property transfer, tax consequences, probate avoidance, powers of appointment, and various tools/techniques used in implementing an effective estate plan.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 305 or FINAN 450 with a grade of "B" or better and KSU cumulative GPA of 2.5 or higher.

Typically Offered
Spring

PFP 766 - Insurance Planning for Families

Credits: 3

An in-depth study of risk management concepts, tools, and

strategies for individuals and families, including: life insurance; property and casualty insurance; liability insurance; accident, disability, health, and long-term care insurance; and government-subsidized programs. Current and emerging issues, as well as ethical considerations, relative to risk management will be discussed. Case studies will provide experience in selecting insurance products suitable for individuals and families.

Repeat for Credit
N

Requisites
Prerequisite: HDFS 305 or FINAN 450 with a grade of "B" or better and KSU cumulative GPA of 2.5 or higher.

Typically Offered
Fall

PFP 768 - Introduction to Financial Therapy

Credits: 3

An applied financial psychology course that examines the intersection of financial planning, coaching, and therapy; the psychology of investing; money disorders frequently seen by financial professionals; advanced techniques to establish rapport; helping clients change problematic/destructive money-related behaviors; dealing with client resistance to change; working with couples and families; and integrating financial psychology tools into personal financial planning.

Repeat for Credit
N

Typically Offered
Fall, Spring

PFP 769 - Money and Relationships

Credits: 3

This course will explore the connection between money and couple and family relationships. The objective of the course is to understand the factors that impact how individuals, couples, and families perceive and manage money. Students will gain in-depth knowledge of current literature, research, and theory in this area. Students will gain personal insight into their own relationship with money and how it impacts their relationships in order to enhance their ability to help and work with others to improve financial well-being.

Repeat for Credit
N

Typically Offered
Fall, Spring

PFP 770 - Applied Behavioral Finance

Credits: 3

This course is applied behavioral finance course that examines the intersection of behavioral finance and financial planning. It reviews the research on behavioral finance, neuroeconomics, and investor psychology; exploring the effects of human emotions and cognitive errors on financial decisions and the financial planning process. This course focuses on the application of behavioral finance theory and research to the practice of personal financial planning to help financial planners improve the financial health of their clients.

Repeat for Credit
N

Typically Offered
Spring, Summer

PFP 771 - Financial Therapy Theory & Research

Credits: 3

Survey of financial therapy and planning literature, conceptual models, and empirical research. Students will be expected to read empirical research related to financial therapy and write a short report on their findings on a weekly basis.

Repeat for Credit
N

Typically Offered
Fall, Spring

PFP 772 - Personal Income Taxation

Credits: 3

This course provides in-depth information of income tax practices and procedures including tax regulations, tax return preparation, the tax audit process, the appeals process, preparation for an administrative or judicial forum,

and ethical considerations of taxation. New and emerging issues related to taxation will be covered. Family/individual case studies provide practice in applying and analyzing tax information and recommending appropriate tax strategies.

Repeat for Credit
N

Requisites
Prerequisite: KSU cumulative GPA of 2.5 or higher.
Corequisite: HDFS 305.

Typically Offered
Summer

PFP 782 - Investing for the Family's Future II

Credits: 3

The focus of this course is to develop a better understanding of the available tools and procedures of investment planning for family and individual goal attainment. Lectures, readings, case studies, and problem sets are designed to help students in preparing for the Investment Planning section of the Certified Financial Planner™examination.

Repeat for Credit
N

Requisites
Prerequisite: PFP 762.

Typically Offered
Spring

PFP 802 - Theories and Research in Family Financial Planning II

Credits: 3

Macroeconomic theory as it relates to family resource allocation decisions. Advanced theories of household economic behavior including the life cycle hypothesis, behavioral economics, behavioral finance, theories of behavioral change, and psychological theories of subjective economic well-being. Focus on empirical research investigating household financial decision-making.

Repeat for Credit
N

Requisites
Prerequisite: PFP 702

Typically Offered
Fall, Summer

PFP 805 - Statistical Software Applications in Personal Financial Planning

Credits: 3

Exposure to and practice in using statistical software to investigate Personal Financial Planning relevant data sets.

Repeat for Credit
N

Requisites
Corequisite: STAT 705.

Typically Offered
Other

PFP 806 - Statistical Methods in Personal Financial Planning I

Credits: 3

The course covers applied regression models that are common in personal financial planning research with focus on categorical outcomes. Regression models covered include binomial, multinomial, and ordinal logit and probit models. Particular emphasis is on applying these models in national datasets (e.g., Survey of Consumer Finances) commonly used in financial planning related research and on the interpretation of results.

Repeat for Credit
N

Requisites
Prerequisite: PFP 805

Typically Offered
Fall

PFP 808 - Research Application in Personal Financial Planning

Credits: 3

In-depth applications of personal and family money management principles with emphasis on credit, savings,

insurance, and budgeting.

Repeat for Credit
Y

Typically Offered
On sufficient demand

PFP 825 - Survey of Personal Financial Planning Research and Theory

Credits: 3

This course is a survey of current personal finance and family resource management literature designed to provide an overview of current consumer finance research from multiple perspectives. The course also provides an introduction to doctoral studies in Personal Financial Planning at Kansas State University.

Repeat for Credit
N

Typically Offered
Spring, Summer

PFP 835 - Professional Practice Management in Personal Financial Planning

Credits: 3

Challenges of managing personal financial planning practices including, business valuation, personnel, marketing, client services, ethics and technological applications. Relying both on theoretical and applied approach, students analyze case studies that provide relevant, practical exposure to practice management issues, with a strong emphasis on current research findings.

Repeat for Credit
Y

Typically Offered
Fall

PFP 836 - Financial Planning Case Studies

Credits: 3

This course examines professional issues in financial planning, including ethical considerations, regulation and certification requirements, communication skills, and professional responsibility. Students are expected to utilize skills obtained in other courses and work experiences in the completion of personal finance case studies, the development of a targeted investment policy, and other related financial planning assignments.

Repeat for Credit
Y

Typically Offered
Fall, Spring

PFP 860 - Advanced Retirement Planning Issues

Credits: 3

Advanced study of micro and macro considerations for retirement planning and its inter-relationship with estate planning objectives, comprehensive assessment of peer-reviewed journal resources and models for forecasting retirement needs; survey of and detailed techniques for implementing various types of retirement plans; integration of retirement plans with marital matters, Social Security benefits, and tax aspects.

Repeat for Credit
N

Requisites
Prerequisite: PFP 460, PFP 760 or equivalent.

Typically Offered
Spring

PFP 863 - Advanced Personal Income Tax Planning

Credits: 3

Explores the complex issues of personal income tax planning and working with individuals with advanced tax situations in business and family income as well as trusts and estates.

Repeat for Credit
N

Typically Offered
Fall

PFP 864 - Advanced Estate Planning Issues

Credits: 3

Advanced study of the principles and concepts of estate planning. Topics of discussion will include the advantages, disadvantages, consequences, and risks of lifetime transfers versus transfers at death; minimization of gift and estate taxes through legal means; intergenerational wealth transfers and the impact on families; intrafamily and business succession techniques; planning for nontraditional or special needs clients; and recent case law updates on family limited partnerships and various trusts used in estate planning.

Repeat for Credit
N

Requisites
Prerequisite: PFP 464, PFP 764, or equivalent.

Typically Offered
Spring

PFP 888 - Research Methods in Personal Financial Planning I

Credits: 3

Study and application of social science methodology for research in personal financial planning graduate programs and professional careers.

Repeat for Credit
N

Typically Offered
Fall, Spring

PFP 889 - Theories and Models in Personal Financial Planning

Credits: 3

This course is designed to provide a broad exposure to common theoretical frameworks in the field of personal finance.

Repeat for Credit
N

Requisites
Prerequisite: PFP 806, PFP 888, PFP 890, PFP 906 or equivalent graduate level research or statistics courses.

Typically Offered
Fall

PFP 890 - Research Methods in Personal Financial Planning II

Credits: 3

Intermediate research methods course with a focus on the dissertation proposal process.

Repeat for Credit
N

Requisites
Prerequisite: PFP 888 and PFP 806

Typically Offered
Spring

PFP 894 - Professional Issues in Personal Financial Planning

Credits: 1

Implications of research findings in preparation for professional work in teaching, research, and practice of personal financial planning.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PFP 900 - Research Seminar

Credits: 1-2

In this course, students will attend a research seminar during which a scholar will present current research on topics relevant to Personal Financial Planning. Speakers may include KSU faculty, advanced PFP graduate students, and researchers from other institutions. Students and faculty not only listen to learn from the speaker's expertise but also actively engage with the presentation by asking questions. Asking questions is critical for scientific inquiry and advancement. Questions should be asked to (1) allow the speaker to clarify or expand on material, (2) constructively criticize the methods, research design, or findings, and (3) suggest ways the scholar might improve the analysis.

Repeat for Credit
Y

Typically Offered
Other

PFP 906 - Statistical Methods in Personal Financial Planning II

Credits: 3

Advanced applied statistics course designed for graduate students with a foundation and understanding of basic and multivariable statistics. Examines panel data analyses, such as random-effects and fixed-effects regression, as well as issues involved using these techniques in personal financial planning datasets.

Repeat for Credit
N

Requisites
Prerequisite: PFP 806

Typically Offered
Spring

PFP 909 - Topics in Personal Financial Planning

Credits: 0-3

Recent research, theory construction, and program development in personal financial planning, which will focus on selected relevant topics. Designed for doctoral students in personal financial planning.

Repeat for Credit
Y

Typically Offered
On sufficient demand

PFP 956 - Clinical Research and Applications in Financial Counseling and Planning

Credits: 3

An overview of client relationship building strategies and the design and application of clinical research methods. Designed for doctoral students in personal financial planning.

Repeat for Credit
N

Requisites
Prerequisite: Doctoral Student in Personal Financial Planning.

Typically Offered
Summer

PFP 979 - Global Issues in Personal Financial Planning

Credits: 3

This course study will give students the opportunity to examine cross cultural differences in defining and practicing personal financial planning. This course will allow students to gain experiences familiarizing them with different cultural views. Students are expected to present research related to the areas of financial planning and counseling to their international counterparts. Students will have the opportunity to learn from guest lecturers and students as well as to experience local culture through sight visits.

Repeat for Credit
N

Requisites
Prerequisite: Completed at least 24 graduate credits.

Typically Offered
Spring-Even Years

PFP 990 - Dissertation Proposal Seminar

Credits: 1

Presentation and discussion of proposals for dissertation research.

Repeat for Credit
N

Requisites
Prerequisite: Six hours of statistics, three hours of research design or methods, and consent of major professor.

Typically Offered
Other

PFP 999 - Dissertation Research

Credits: 1-21

Presentation and discussion of final dissertation research.

Note
Consent of School

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PHILO 100 - Introduction to Philosophical Problems

Credits: 3

An introduction to some of the main problems of philosophy, such as the nature of morality, knowledge, mind and body, political authority, and the existence of God.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Ethical Reasoning and Responsibility

PHILO 105 - Introduction to Critical Thinking

Credits: 3

A basic introduction to both deductive and inductive reasoning. Emphasis is placed on constructing, analyzing, and evaluating arguments.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Empirical and Quantitative Reasoning

PHILO 110 - Introduction to Formal Logic

Credits: 3

Systematic study of deductive reasoning (and possibly inductive reasoning) using the techniques of modern logic. Examines different types of valid inference, the logical structure of English sentences, and the validity of arguments generally. Involves the development and use of a symbolic system which models logical relations among sentences.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

PHILO 112 - Causal and Statistical Reasoning

Credits: 3

This course introduces students to some ideas about causation, and also to some elementary tools for thinking both critically and constructively about causal claims. The treatment is broadly formal, and introduces ideas from statistics, computer science, and philosophy, but requires no mathematical background beyond high school algebra. Some sections are taught using web-based course-ware.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Empirical and Quantitative Reasoning

PHILO 115 - Introduction to Philosophy of Religion

Credits: 3

Arguments pertaining to the existence of God, the nature of religious experience, the problem of evil, the proper relation between reason and faith, and religious diversity.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Ethical Reasoning and Responsibility

PHILO 120 - Introduction to Philosophy of Art

Credits: 3

Philosophical problems concerning the concepts of art and aesthetic value, patterns of reasoning in art appreciation and criticism, and writing histories of art and artistic movements.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

PHILO 125 - Introduction to Philosophy of Science

Credits: 3

Examines the nature of science and how it differs from pseudo-sciences such as astrology, and raises questions about the nature of reality and social value of science.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

PHILO 130 - Introduction to Moral Philosophy

Credits: 3

Philosophical issues arising in and about morality, such as the nature of moral judgments, moral knowledge, moral justification, and the relation of morality to religion. Topics might be approached by a study of contemporary moral Problems, by reading of classical texts, or by both methods.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Ethical Reasoning and Responsibility

PHILO 131 - Introduction to the Philosophy of Gender

Credits: 3

Introduction to philosophy focusing on the concept of gender and its effects in the world, including the metaphysics, language, ethics and the social-political implications of gendered concepts and language.

Repeat for Credit
N

Typically Offered
Fall, Spring

PHILO 132 - Introduction to the Philosophy of Sex and Love

Credits: 3

An introduction to philosophy that focuses on philosophical

issues pertaining to intimate human relationships, including the concept of love, the ethics of sexuality, and the role of biology and culture in shaping our intimate lives.

Repeat for Credit
N

Typically Offered
Fall or Spring

PHILO 135 - Introduction to Social and Political Philosophy

Credits: 3

Examines rival theories of justice and applies them to current debates about economic inequality, gender, race, and sexual orientation. Combines some influential historical texts with contemporary philosophical literature on current political issues.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Ethical Reasoning and Responsibility

PHILO 137 - Introduction to Religious Freedom and Democracy

Credits: 3

Religious freedom and religious toleration. Consider this topic in a variety of contexts, including Western democracies and Muslim majority states.

Repeat for Credit
N

Typically Offered
Fall or Spring

PHILO 138 - Ethics and Social Media

Credits: 3

Introduces ethical theories, concepts and methods, e.g. utility, rights and perfect obligations in deontic and consequentialist theories, and applies them to ethical issues in social media, e.g. privacy, bullying, hate speech, doxing, bots and preferences in dating apps. Students learn to evaluate and apply competing ethical systems, and to defend the resulting analysis in written form.

Note
Rationale: The 2030 plan for KSU highlights the need to increase recruiting efforts, train students in ways relevant to their future careers and post-university lives, while maintaining credible academic standards. The Philosophy Department has been offering 100 level courses in ethics (e.g., Introduction to Moral Philosophy) as part of the general education requirement for students in A&S. This proposal has several aims: 1) to create a course in the ethics of social media developing the analytic skills common to philosophical courses in ethics while applying those skills to issues of social importance and interest to students, which course should be 2) available to on-campus students, 3) appropriate for offerings through Global Campus, and 4) made accessible in the near term to high school students in addition to all KSU students.

Repeat for Credit
N

Typically Offered
Fall or Spring

K-State Core
6 Arts and Humanities

K-State 8
Ethical Reasoning and Responsibility

PHILO 140 - Introduction to Philosophy of Mind

Credits: 3

Philosophical problems concerning the nature of human beings, including the relation between mind and body, the existence of the soul, the nature of consciousness, the possibility of artificial intelligence, human freedom and personal identity.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

PHILO 145 - Historical Introduction to Philosophy

Credits: 3

Introduction to philosophy through the study of major thinkers in the history of philosophy, such as Plato, Descartes, Hume. Topics may include the immortality of the soul, the existence of God, skepticism, reasons for being moral.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Historical Perspectives

PHILO 150 - Introduction to Philosophy of Feminism

Credits: 3

Philosophical examination of issues such as femininity and masculinity, the social conditions of gender equality, multiculturalism and gender, affirmative action, sexual harassment, and welfare policy.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Ethical Reasoning and Responsibility

PHILO 160 - Introduction to Philosophy of Law

Credits: 3

Examines fundamental issues concerning the nature and justification of legal institutions. Topics selected from: the nature of law and its relations to morality, criminal justice and punishment, responsibility and liberty, and legal interpretation.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Ethical Reasoning and Responsibility

PHILO 175 - Philosophical Composition

Credits: 4

The purpose of this course is to provide students an introduction to philosophy while assisting them to further develop writing skills in preparation for Expository Writing II. Topics covered vary, but typically are related to understanding ourselves and our moral practices.

Repeat for Credit
N

Requisites
Prerequisite: ENGL 100 and open only to freshmen and sophomores.

Typically Offered
Spring

PHILO 180 - Introduction to Philosophy of Race

Credits: 3

Introduction to concepts of race and racial identity; contemporary controversies about the nature of racism and social justice are examined through theories of ethics and political philosophy using various sources, including movies, music, social media.

Repeat for Credit
N

Typically Offered
Fall or Spring

K-State Core
Ethical Reasoning and Responsibility

PHILO 185 - Engineering Ethics

Credits: 3

An examination of the principles of ethics as applied to cases arising in the practice of the various branches of engineering.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Ethical Reasoning and Responsibility

PHILO 215 - Honors Introduction to Philosophy

Credits: 3

Central problems of philosophy, such as skepticism and knowledge, the nature of human minds, freedom, the nature of morality, justice and the existence of God.

Note
For students in an honors program.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Ethical Reasoning and Responsibility

PHILO 230 - Honors Introduction to Moral Philosophy

Credits: 3

Philosophical issues arising in and about morality. Topics selected from: the nature of moral judgments, moral knowledge, moral justification, and the relation of morality to religion.

Note
For students in an honors program.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Ethical Reasoning and Responsibility

PHILO 295 - Introduction to Environmental Ethics

Credits: 3

Introduces and compares ethical theories applying to issues arising from the use and exploitation of the environment, such as the value of biodiversity, obligations to future generations, obligations to non-humans, and the ethics of environmental risk management.

Repeat for Credit
N

Typically Offered
Fall or Spring

K-State 8
Ethical Reasoning and Responsibility

PHILO 297 - Honors Introduction to the Humanities I

Credits: 3

Study of selected major works of history, literature, and philosophy which have been of central importance in the Western cultural tradition. Considerable emphasis is placed on classroom discussion and writing interpretive essays.

Note

For students in an honors program. Consent of instructor.

Repeat for Credit
N

Typically Offered
Fall

Cross-listed
ENGL 297, HIST 297, MLANG 297

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

PHILO 298 - Honors Introduction to the Humanities II

Credits: 3

Continuation of PHILO 297.

Repeat for Credit
N

Requisites
Prerequisite: PHILO 297 or consent of instructor.

Typically Offered
Spring

Cross-listed
ENGL 298, HIST 298, MLANG 298

K-State Core
6 Arts and Humanities

PHILO 300 - History of Ancient Philosophy

Credits: 3

Ancient Greek Philosophy, particularly in the writings of Plato and Aristotle. Pre-Socratic and/or Hellenistic philosophers may be represented as well.

Repeat for Credit
N

Requisites
Prerequisite: One course in philosophy, major standing, or consent of instructor.

Typically Offered
Fall

K-State 8
Historical Perspectives

PHILO 301 - History of Philosophy

Credits: 3

This course introduces students to the development of philosophical ideas from ancient Greece to the modern era, and develops skills in the critical interpretation of original texts.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Historical Perspectives

PHILO 303 - Writing Philosophy

Credits: 3

Introduction to philosophical composition to develop skills necessary to succinctly explicate single arguments, dialectics relating several arguments, and critical analyses of arguments. Philosophical topics covered vary, but typically are related to understanding ourselves and our moral practices.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

PHILO 305 - Introduction to Decision Theory

Credits: 3

Introduction to decision and social choice theory emphasizing theories of utility, equilibria, and aggregation.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility

PHILO 320 - Symbolic Logic I

Credits: 3

First order logic, covering truth tables and truth functions, and derivations in both propositional and predicate logic.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

PHILO 326 - Philosophy of Science: Evidence, Evolution and Intelligent Design

Credits: 3

This course is an introduction to philosophy of science using the controversy over evolutionary theory and creation science/intellegent design to explore ideas about evidence, explanation and tests of scientific theories.

Repeat for Credit
N

Typically Offered
Fall or Spring

PHILO 330 - Moral Philosophy

Credits: 3

An introduction to ethics, surveying central issues in normative ethical theory with an emphasis on consequentialism, virtue theory, and deontology.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility

PHILO 331 - Philosophy of Gender

Credits: 3

The concept of gender and its effects in the world, including the metaphysical nature of gender, the potentially gendered nature of many areas of "traditional" philosophy, the nature of structural injustice, and the way in which gender influences life choices in areas such as career, family life, and sexuality.

Repeat for Credit
N

Typically Offered
On sufficient demand

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

PHILO 332 - Philosophy of Sex and Love

Credits: 3

Engages philosophical issues pertaining to intimate human relationships, including the concept of love, the ethics of sexuality, and the role of biology and culture in shaping our intimate lives.

Repeat for Credit
N

Typically Offered
On sufficient demand

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

PHILO 335 - Introduction to Social and Political Philosophy

Credits: 3

Introduction to modern social and political philosophy, examining questions about central political values, such as equal citizenship, property rights, distributive justice,

fairness, and democratic social and political institutions.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

PHILO 336 - Global Justice

Credits: 3

Addresses philosophical and ethical issues of global and international justice, including responsibility to help the poor, human rights, cosmopolitanism and global equality, the moral dimensions of immigration, just war, global health, and responsibility for combatting climate change.

Repeat for Credit
N

Requisites
Prerequisite: One philosophy course or consent of instructor.

Typically Offered
On sufficient demand

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

PHILO 337 - Religious Freedom and Democracy

Credits: 3

Religious freedom and religious toleration. Consider this topic in a variety of contexts, including Western democracies and Muslim majority states.

Repeat for Credit
N

Typically Offered
On sufficient demand

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

PHILO 340 - Justification and Reliable Knowledge

Credits: 3

This course offers an introduction to epistemology, surveying the historical development of important theories of knowledge, alternative conceptions of justification, and differing ideas about evidence and reliable inference.

Repeat for Credit
N

Requisites
Prerequisite: One philosophy course, major standing, or consent of instructor.

Typically Offered
Fall

PHILO 345 - Worlds, Things and Properties

Credits: 3

Introduction to metaphysics, surveying the historical development of different metaphysical theories, including alternative conceptions of causation and of identity through time, and alternative theories about the relationship between physical and non-physical (e.g. mental) properties.

Repeat for Credit
N

Requisites
Prerequisite: One course in philosophy, major standing, or consent of instructor.

Typically Offered
Spring

PHILO 346 - Grasping Reality: The Art of Analysis

Credits: 3

Introduction to the formal and informal methods of philosophical analysis. Topics include thought experiments, reflective equilibrium, counterfactual analysis, conceptions of 'knowledge' and 'evidence', notions of proof, causation and causal inference, supervenience, natural laws and other dependence relations.

Repeat for Credit

N

Typically Offered
Fall

PHILO 352 - Philosophy of Horror

Credits: 3

Explores philosophical themes in horror films, including the nature of fear and why humans enjoy feeling afraid; the relationship between fear and humor; existentialism and attitudes towards death; the nature of justice; and the horror genre as a medium for social commentary on race, gender, and animal welfare.

Repeat for Credit
N

Typically Offered
Spring-Even Years

K-State 8
Aesthetic Interpretation
Ethical Reasoning and Responsibility

PHILO 360 - Topics in Continental Philosophy

Credits: 3

A study of selected figures (such as Kierkegaard, Fichte, Marx, Nietzsche, Beauvoir, Hegel, Schopenhauer, Sartre, Heideggar, Husserl, Wittgenstein, Gadamer, Ricoeur, Foucault, Lacan), or movements (such as Transcendental Idealism, Existentialism, Marxism, Phenomenology, Post-Modernism), or issues in continental philosophy (such as humanity's relation to God, free will, the state, irrationalism, gender, philosophical methodology).

Repeat for Credit
N

Typically Offered
On sufficient demand

PHILO 365 - Medical Ethics

Credits: 3

Selected moral issues which confront the medical professional, including experimentation on human subjects, informed consent, abortion, euthanasia, conflict of interest, and confidentiality.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility

PHILO 380 - Philosophy and Race

Credits: 3

The concept of race and racial identity, and contemporary controversies about the nature of racism and social justice, examined through fiction, movies, and readings in biology, anthropology, history, and philosophy.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

PHILO 386 - Philosophy of Computer Science and Software Engineering

Credits: 3

Explores conceptual, ethical, and practical questions about computers and software including the nature of computer science, digital rights, special and general AI, and the ethical responsibilities of software engineers.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Historical Perspectives

PHILO 390 - Business Ethics

Credits: 3

An examination of the principles of ethics as applied to situations and practices in modern American business.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

PHILO 399 - Honors Seminar in Philosophy

Credits: 3

Honors Seminar in Philosophy

Repeat for Credit
N

Typically Offered
Fall

PHILO 492 - Computers and Society

Credits: 1-2

A study of ethical issues raised by the impact of computers and associated technologies on society, including such topics as ethics of computer use, computer fraud, protection of privacy; legal, moral, and public policy-making responsibilities of computer professionals.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing plus concurrent enrollment in CIS 415; CIS 520.

Typically Offered
Spring

PHILO 499 - Honors Project

Credits: 3

Open only to Arts & Sciences students who are active members of the University Honors Program.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

PHILO 501 - Perspectives on Science

Credits: 3

Provides historical, philosophical, and sociological perspectives on science, its methods and products, the social processes by which its methods are deployed and its products used, and the ways in which its results become imbued with cultural meaning.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Historical Perspectives

PHILO 510 - Symbolic Logic II

Credits: 3

An advanced study of logical systems and problems in logical theory.

Repeat for Credit
N

Requisites
Prerequisite: PHILO 220 or PHILO 110.

Typically Offered
On sufficient demand

K-State 8
Empirical and Quantitative Reasoning

PHILO 525 - Social-Political Philosophy

Credits: 3

Examines key developments in contemporary political philosophy in such areas as liberalism, libertarianism, communitarianism, Marxism, and feminism, and on topics of special interest where these theories are applied.

Repeat for Credit
N

Requisites
Prerequisite: PHILO 305, or PHILO 330, or PHILO 335 or consent of instructor.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility

PHILO 535 - Philosophy of Law

Credits: 3

Philosophical issues arising in the legal context, such as the nature of legal reasoning, the nature and scope of constitutional protections, the justification of punishment, affirmative action, and civil disobedience.

Repeat for Credit
N

Requisites
Prerequisite: One course in philosophy (PHILO 135, PHILO 160, or PHILO 330 recommended), or consent of instructor.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

PHILO 550 - Philosophy of Social Sciences

Credits: 3

Epistemic methods and metaphysical presuppositions in the social sciences. Topics selected from: models, measurement, reduction, explanation, theories of function, theories of ideal types, and rational choice theory.

Repeat for Credit
N

Requisites
Prerequisite: Two courses in philosophy, one of which must be PHILO 100 or PHILO 320.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

PHILO 565 - Advanced Topics in Medical Ethics

Credits: 3

An advanced, focused discussion of special topics in the biomedical sciences. Topics vary and include the ethics governing human experimentation, stopping rules for CRTs, justice in funding medical research, justice in the distribution of access to medical care, decision rules for choice of treatment, definitions of disease, medicalization of behavioral patterns, and other related topics.

Repeat for Credit
Y

Requisites
Prerequisite: PHILO 365

Typically Offered
On sufficient demand

PHILO 570 - Aesthetics

Credits: 3

A study of selected topics in aesthetics and the philosophy of art.

Repeat for Credit
N

Requisites
Prerequisite: One course in philosophy or consent of instructor.

Typically Offered
On sufficient demand

K-State 8
Aesthetic Interpretation

PHILO 585 - Ethics

Credits: 3

Examines key developments in moral philosophy. May

focus on issues in metaethics, ethical theory, or history of ethics.

Repeat for Credit
N

Requisites
Prerequisite: PHILO 330.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

PHILO 590 - Topics in Philosophy

Credits: 3

A study of selected topics in applied ethics, applied philosophy, or the continental tradition.

Repeat for Credit
N

Requisites
Prerequisite: One course in philosophy.

Typically Offered
On sufficient demand

PHILO 595 - Environmental Ethics

Credits: 3

Ethical issues that arise from the use and exploitation of the environment, such as the value of biodiversity, obligations to future generations, obligations to non-humans, and the ethics of environmental risk management.

Repeat for Credit
N

Requisites
Prerequisite: One course in philosophy, or one course in the natural sciences.
Recommended Pre-requisite: Philo 330.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

PHILO 601 - Advanced Issues in the History of Philosophy

Credits: 3

Particular sets of issues in the history of philosophy or in-depth examination of the thought of a particular philosopher. Emphasis on issues in metaphysics and epistemology.

Repeat for Credit
N

Requisites
Prerequisite: Two courses in philosophy and consent of instructor. Depending on topic, PHILO 300 or PHILO 301 required.

Typically Offered
Fall, Spring

PHILO 610 - Special Topics in Logic

Credits: 3

Examination of one or more advanced topics in mathematical or philosophical logic, such as: modal, temporal, and epistemic logics; counterfactuals; intuitionistic and other sub-classical logics; higher-order and other super-classical logics; formal semantics of natural language; or theories of truth.

Repeat for Credit
N

Requisites
Prerequisite: PHILO 110 or PHILO 320, or consent of instructor.

Typically Offered
On sufficient demand

PHILO 615 - Philosophy of Religion

Credits: 3

Concepts of religion, including truth and faith, God and atheism, reason and revelation, morality and religion, evil, humanity, sin, salvation, eschatology.

Repeat for Credit
N

Requisites
Prerequisite: Two courses in philosophy. PHILO 305, PHILO 320, or PHILO 340 recommended.

Typically Offered
Fall, Spring

PHILO 620 - The Development of Analytical Philosophy

Credits: 3

The history of analytic philosophy from 1870 to 1960, examining the works of most of the following philosophers: Frege, Russell, Wittgenstein, Moore, the logical positivists, and Quine.

Repeat for Credit
N

Requisites
Prerequisite: Two courses in philosophy, one of which must be PHILO 110 or PHILO 320.

Typically Offered
Fall, Spring

PHILO 625 - The Philosophy of Language

Credits: 3

Philosophical problems concerning the nature of language and such concepts as meaning and truth.

Repeat for Credit
N

Requisites
Prerequisite: Two courses in philosophy, one of which must be PHILO 110 or PHILO 320.

Typically Offered
Fall, Spring

PHILO 635 - Metaphysics

Credits: 3

A critical examination of theories about objects and their qualities, causality, space, and time. Both traditional and contemporary sources may be used, but emphasis will be placed on the latter.

Repeat for Credit
N

Requisites
Prerequisite: Two courses in philosophy. PHILO 305, PHILO 320, or PHILO 340 recommended.

Typically Offered
Fall, Spring

PHILO 640 - Epistemology

Credits: 3

Philosophical issues relating to human knowledge. Issues selected from: the difference between knowledge and belief, whether knowledge is really attainable, whether we have epistemic duties and what they might be, what counts as justification for belief. Special topics may include self-knowledge, a prior knowledge, inductive knowledge, and naturalism.

Repeat for Credit
N

Requisites
Prerequisite: Two courses in philosophy. PHILO 305, PHILO 320, or PHILO 340 recommended.

Typically Offered
Fall, Spring

PHILO 645 - The Philosophy of Science

Credits: 3

Philosophical problems concerning science, its methods. Topics selected from: qualitative and quantitative confirmation theories and the nature of scientific theories, laws, and explanation in the physical and biological sciences.

Repeat for Credit
N

Requisites
Prerequisite: Two courses in philosophy, one of which must be PHILO 110 or PHILO 320.

Typically Offered
Fall, Spring

PHILO 646 - Philosophy of Physics

Credits: 3

This course offers an exploration of the conceptual foundations of modern physics, including topics from relativistic space-time theories, quantum mechanics and gauge theories, and related topics in the philosophy of science, including the nature of physical laws, reduction, the measurement problem and non-locality.

Repeat for Credit
N

Requisites
Prerequisite: Two courses in philosophy.

Typically Offered
Other

PHILO 647 - Philosophy of Biology

Credits: 3

This course will introduce a range of topics in the philosophy of biology, including: the conceptual foundations of evolutionary theory, interpretations of fitness and selection, group selection, definitions of species, epistemological problems in phylogenetic inference, design arguments, explanation in biological sciences and reliable modeling in ecology and evolutionary biology.

Repeat for Credit
N

Requisites
Prerequisite: Two courses in philosophy.

Typically Offered
Other

PHILO 650 - Rationality and Action

Credits: 3

Philosophical issues connected with human action and reasons for action, such as the existence of objective reasons to act one way rather than another, the existence of reasons to act that do not stem from desires, the difference between reasoning about how to act and reasoning about what is true, the nature of intention and desire and their specific roles in action.

Repeat for Credit
N

Requisites
Prerequisite: Two courses in philosophy.

Typically Offered
Fall, Spring

PHILO 655 - Philosophy of Mind

Credits: 3

A philosophical examination of major theories about the nature of the mind, mental causation, consciousness, intentionality, cognition and psychological explanation.

Repeat for Credit
N

Requisites
Prerequisite: Two courses in philosophy. PHILO 305, PHILO 320 or PHILO 340 recommended.

Typically Offered
Other

PHILO 660 - Advanced Ethics

Credits: 3

Selected topics in contemporary ethical theory.

Repeat for Credit
N

Requisites
Prerequisite: PHILO 330 and one other philosophy course.

Typically Offered
Fall, Spring

PHILO 665 - Philosophy of Economics

Credits: 3

Moral and conceptual foundations of modern economic systems. Topics selected from: the relations between "economics rationality" and the quality of life, the just distribution of wealth, the nature of property rights, and the value of technology in society.

Repeat for Credit
N

Requisites
Prerequisite: Two courses in philosophy.

Typically Offered
Fall, Spring

PHILO 670 - Advanced Social-Political Philosophy

Credits: 3

A study of a single topic in contemporary philosophical literature, with application to current political issues. Topic selected from: multiculturalism, minority rights, nationalism, justification of democracy.

Repeat for Credit
N

Requisites
Prerequisite: PHILO 525 and one other philosophy course.

Typically Offered
Fall, Spring

PHILO 680 - Independent Study in Philosophy

Credits: 1-18

Independent Study in Philosophy

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PHILO 685 - Current Topics in Metaphysics and Epistemology

Credits: 3

Selected philosophical issues of current interest in analytic metaphysics and epistemology.

Repeat for Credit
Y

Requisites
Prerequisite: PHILO 340 and two additional philosophy courses.

Typically Offered
Fall, Spring

PHILO 690 - Special Topics in Philosophy

Credits: 3

Selected topics in metaphysics, epistemology, philosophy of science, philosophy of language, or philosophy of mind.

Repeat for Credit
N

Requisites
Prerequisite: PHILO 320 and additional background courses required for topic.

Typically Offered
On sufficient demand

PHILO 701 - Topics in Metalogic

Credits: 3

Selected topics in the analysis of first-order theories and the foundations of mathematics.

Repeat for Credit
Y

Requisites
Prerequisite: PHILO 510 or MATH 511.

Typically Offered
On sufficient demand

PHILO 801 - Topics in Philosophy and Methodology of Science

Credits: 1-3

This course explores philosophical problems concerning sciences and its methods. Topics selected from: conceptual foundations of modern science, qualitative and quantitative confirmation theories, and the nature of theories, laws, and explanation in the sciences.

Note
Instructor permission.

Repeat for Credit
Y

Typically Offered
On sufficient demand

PHYS 017 - Colloquium in Physics

Credits: 0

Weekly lectures on topics of current interest in physics by faculty and visiting scientists.

Repeat for Credit
N

Typically Offered
Fall, Spring

PHYS 101 - The Physical World

Credits: 3

Presents an overview of physics for students who have little or no physics background. The Physical World is principally classical physics with some discussion of modern physics. The observations and phenomena are simple and basic.

Note
Three hours lecture a week. Not available for credit to students who have credit in PHYS 106.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 102 - Current Topics in the Physical World

Credits: 3

May include nuclear physics, atomic theory, quantum mechanics, chemistry, geology, molecular biology, astronomy, and other topics of current interest.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 103 - The Physical World Laboratory

Credits: 1

This laboratory is designed to introduce students to the scientific method with an emphasis on basic physics experiments in mechanics, thermal physics, electricity and magnetism.

Note
Two hours lab a week.

Repeat for Credit
N

Requisites
Corequisite: PHYS 101.

Typically Offered
Fall, Spring, Summer

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 106 - Concepts of Physics

Credits: 4

An introductory course in physics which emphasizes the topics of physics normally presented to elementary school children. A qualitative approach with integrated laboratory, this course is recommended for students preparing for careers as elementary school teachers.

Note
Not available for credit to students who have completed

PHYS 101.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 109 - Astronomy

Credits: 3

A qualitative study of the earth, sun, planets, stars, galaxies and the universe; a survey of what is known about the universe and how we know it.

Note
2 hours lecture and one 2-hour lab per week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 113 - General Physics I

Credits: 4

A basic development of the principles of mechanics, heat, fluids, oscillations, waves and sound. Emphasis is on conceptual development and numerical problem solving.

Note
Two hours lecture, one hour recitation, one hour quiz, and two hours lab week.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 114 - General Physics II

Credits: 4

The continued treatment of the fundamentals of electricity and magnetism, light and optics, atomic and nuclear physics. These concepts are used to understand D.C. and A.C. circuits, motors, and generators. Emphasis is placed on conceptual development and problem solving.

Note
Two hours lecture, one hour recitation, one hour quiz, and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 113.

Typically Offered
Fall, Spring, Summer

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 115 - Descriptive Physics

Credits: 5

Covers mechanics, electricity, heat, light, sound, and atomic theory. Surveys of the major fields of physics concentrating on how physicists work to understand and describe physical phenomena.

Note
Two hours lecture, one hour quiz, and four hours studio a week. High school algebra.

Repeat for Credit
N

Typically Offered
Spring

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 122 - Physics Today I

Credits: 1

The first of a two-semester study of problem solving in physics. Introductory physics problems as well as problems encountered in research will be discussed. Introductory problems will focus on mechanics and thermodynamics. Research discussions will center on topics of current interest at K-State and elsewhere.

Note
One class of two hours per week.

Repeat for Credit
N

Requisites
Prerequisite: Physics major OR consent of instructor.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

PHYS 123 - Physics Today II

Credits: 1

Second of a two-semester study of problem solving in physics. Introductory physics problems as well as problems encountered in research will be discussed. Introductory problems will focus on electricity, magnetism, and optics. Research discussions will center on topics of current interest at K-State and elsewhere.

Note
One class of two hours per week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 122 AND (physics major OR consent of instructor).

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

PHYS 213 - Engineering Physics I

Credits: 5

Mechanics and heat; for students of science and engineering.

Note
Two hours lecture, one hour quiz, and four hours studio a week.

Repeat for Credit
N

Requisites
Corequisite: MATH 220.

Typically Offered
Fall, Spring

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 214 - Engineering Physics II

Credits: 5

Sound, electricity, magnetism, light, and modern physics; for students of science and engineering.

Note
Two hours lecture, two hours recitation, one hour quiz, and four hours studio a week.

Repeat for Credit
N

Requisites

Prerequisite: PHYS 213 AND corequisite MATH 221.

Typically Offered
Fall, Spring

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 223 - Physics I, Mechanics, and Thermodynamics

Credits: 5

For physics majors. Lecture and quiz in common with PHYS 213. Special studio.

Repeat for Credit
N

Requisites
Corequisite: (PHYS 122 OR consent of instructor) AND MATH 220.

Typically Offered
Fall

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 224 - Physics II, Electromagnetism, and Sound

Credits: 5

For physics majors. Lecture and quiz in common with PHYS 214. Special studio.

Repeat for Credit
N

Requisites
Corequisite: (PHYS 123 OR consent of instructor) AND PHYS 223 AND MATH 221.

Typically Offered
Spring

K-State Core
4 Natural and Physical Sciences

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 300 - Physics in Relation to Other Disciplines

Credits: 1-3

Variable content, offered only by prearrangement with the physics department and with the instructor. A brief syllabus will be available for each offering of PHYS 300 outlining the objectives and organization of the course for the semester in which offered.

Note
Consent of instructor.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 325 - Physics III, Relativity, and Quantum Physics

Credits: 4

An introduction to modern physics as exemplified by atomic, nuclear, condensed matter, and particle phenomena.

Note
Three hours of lecture and one two-hour lab per week.
A working knowledge of spreadsheets and use of computers as data analysis tools.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 214.

Typically Offered

Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 399 - Physics Honors Seminar

Credits: 1-3

Discussions of topics of current interest in physics.

Note
Students must be enrolled in the arts and sciences honors program or have permission of the instructor. Consent of instructor.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 400 - Independent Study in Physics

Credits: 1-3

Independent theoretical or experimental investigation of a topic for physics majors or for a senior honors thesis.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing AND consent of instructor.

Typically Offered
On sufficient demand

K-State 8
Empirical and Quantitative Reasoning

PHYS 451 - Principles of Contemporary Physics

Credits: 3

A non mathematical introduction to twentieth century physics: relativity, quantum mechanics, the physics of solids, and fundamental particles.

Note
Not open to physics majors. Credit is not granted for both PHYS 451 and PHYS 452.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 101.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 452 - Contemporary Physics: Problems and Principles

Credits: 4

An introduction to twentieth century physics; relativity, quantum mechanics, the physics of solids, and fundamental particles. The lectures are in common with PHYS 451.

Note
Three hours lecture and two hour lab each week. The laboratory will include the quantitative aspects of the subject matter.

Not open to physics majors. Credit is not granted for both PHYS 451 and PHYS 452.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 114.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 460 - Undergraduate Topics in Physics

Credits: 1-6

Special topics in physics not completely treated in other courses.

Repeat for Credit
Y

Requisites
Prerequisite: PHYS 114.

Typically Offered
Other

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 495 - Astronomy

Credits: 3

Topics in modern astronomy. Use of a telescope for observational astronomy will be emphasized.

Note
Two hours lecture and two hours independent observational astronomy a week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 109.

Typically Offered
Other

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 497 - Senior Research in Physics

Credits: 1-3

Individually directed research in atomic physics, condensed matter, particle physics or physics education.

Repeat for Credit
Y

Requisites
Prerequisite: Senior in physics AND consent of instructor.

Typically Offered
Other

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 498 - Honors Tutorial in Physics

Credits: 1-3

Individually directed research in physics, normally taken as a preparation for writing an honors thesis.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 499 - Honors Project

Credits: 3

Open only to Arts & Sciences students who are active members of the University Honors Program.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 506 - Advanced Physics Laboratory

Credits: 4

The completion of experiments of current and/or historical interest in contemporary physics. Students develop skills in

and knowledge of measurement techniques using digital and analog instruments. Various data analysis techniques are used.

Note
Four (4) class hours per week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 325.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 515 - Physics for Science Teachers

Credits: 1-4

Study of current topics in physics, with laboratory experience and demonstration of the processes or phenomena under consideration. Topics and activities will be directed toward providing teachers with material for demonstrations and student experiments or projects. Examples of topics are: solar power, laser applications, holography, and subnuclear particles, relativity, or the historical development of some physical concept.

Repeat for Credit
Y

Requisites
Prerequisite: Two semesters of college physics.

Typically Offered
Other

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 522 - Mechanics

Credits: 4

Principles of statistics and dynamics of systems of particles and rigid bodies. Topics include Newton's laws for one particle, non-inertial reference frames, central forces, system of particles, rigid body statics and motion in a plane and in three dimensions, Lagrangian mechanics and Hamilton's equations, oscillating systems and normal coordinates.

Note
Three hours of lecture and one hour recitation per week
The recitation will focus on mathematical methods and techniques applied to problem solving.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 214.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 532 - Electromagnetic Fields I

Credits: 4

An introduction to electricity and magnetism. The first of a two semester study of Maxwell's equations in both integral and differential forms. Topics include electrostatics with vector calculus; electrostatic potential solutions in rectangular, cylindrical, and spherical coordinates; dielectrics; electrostatic energy and capacitance; magnetostatics with vector calculus; Biot-Savart law; vector and scalar potentials for magnetisml magnetic permeability; Faraday's law in integral and differential form; magnetic energy and inductance; displacement current; lumped oscillations and LCR systems; impedance.

Note
Three hours of lecture and one hour recitation per week. The recitation will focus on mathematical methods and techniques applied to problem solving.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 214.

Typically Offered
Fall

PHYS 620 - Teaching University Physics

Credits: 3

A discussion of techniques which will aid in the development of understanding the concepts in physics. Emphasis is placed on models of learning and teaching techniques which can be applied to the teaching of contemporary physics to university students. These models and techniques are used to analyze a teaching approach of topics, such as quantum mechanics, which is important to today's physicist.

Note
Three class hours per week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 325 OR graduate standing.

Typically Offered
Other

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 633 - Electromagnetic Fields II

Credits: 3

Second of a two semester study of Maxwell's equations in both integral and differential forms. Special relativity; Lorentz transformations; relativistic invariants; transformation properties of electric and magnetic fields and potentials; Lorentz force and electrodynamics; electromagnetic fields of a point charge; electromagnetic waves; solutions to the wave equation in rectangular, cylindrical, and spherical geometries; wave propagation in matter; reflection, refraction, and transmission; wave guides and fiber optics; Fresnel equations; polarization; dipole radiation.

Note
Three lectures per week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 532 OR graduate standing.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 636 - Physical Measurements Instrumentation

Credits: 4

A laboratory-oriented course to acquaint students with electrical circuits, their interfacing with measuring instruments, and their use in making physical measurements.

Note
Four class hours per week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 214 OR (PHYS 114 AND MATH 220) OR graduate standing.

Typically Offered
Spring

PHYS 639 - Computations in Physics

Credits: 3

An introduction to applying computational and numerical techniques to solve problems of interest to physicists. Topics include the application of computational analysis and solution to physical problems in both classical, and quantum physics including particle structure and motion, interaction of particles with fields, and model building for simulation of physical phenomena. A practicum is an integral part of the course. Students will use both personal computers and advanced workstations.

Note
One hour lecture, two hours of computer lab per week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 325 OR graduate standing.

Typically Offered
Other

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 642 - Nuclear Physics

Credits: 3

An introduction to the structure of the nucleus, radioactivity, and nuclear energy; the application of quantum mechanics to describe nuclear physics.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 325 OR graduate standing.

Typically Offered
On sufficient demand

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 651 - Introduction to Optics

Credits: 4

Introduction to modern concepts in optics: electromagnetic waves, propagation of light through media, geometrical optics of lenses, mirrors and simple optical instruments, polarization, interference, coherence, and diffractions.

Note
Taught in a studio format; three hours of lecture and two hours of laboratory per week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 214 OR graduate standing.

Typically Offered
Other

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 652 - Applied Optics and Optical Measurement

Credits: 3

Topical approach oriented toward measurements including coherence, Fourier Optics, holography, light scattering, interferometry, laser technology.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 651 OR graduate standing.

Typically Offered
Other

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 655 - Physics of Solids

Credits: 3

An introduction to the physics of solids with an emphasis on energy band structures, electrical and optical properties of solids and solid state devices.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 662 OR graduate standing.

Typically Offered
Other

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 662 - Introduction to Quantum Mechanics

Credits: 4

Concepts and mathematical models of quantum physics. Solutions to the time independent Schrödinger equation, descriptions of one-electron and multi-electron atoms, electron spin and magnetic moments.

Note
Three hours lecture and one hour recitation per week. The recitation will focus on mathematical methods and techniques applied to problem solving.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 325 OR graduate standing.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 664 - Thermodynamics and Statistical Physics

Credits: 3

An introduction to thermodynamics developed from the concepts of statistical physics. Applications include the gas laws, concepts of heat and work, phase transitions, and kinetic theory with applications to statistical physics.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 325 OR graduate standing.

Typically Offered
Fall

PHYS 691 - Introduction to Astrophysics

Credits: 3

An introduction to the application of physical principles to understanding astronomical objects. Topics include properties of stars, stellar evolution, galaxies, and cosmology.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 325 OR graduate standing.

Typically Offered
Other

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 692 - Introduction to Cosmology

Credits: 3

An introduction to the physics and astrophysics of the hot big bang model to the Universe.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 325 OR graduate standing.

Typically Offered
Spring-Even Years

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 694 - Particle Physics

Credits: 3

An experimental and phenomenological introduction to high energy physics. The course will emphasize understanding the experimental basis of what is known about the subnuclear domain. Students will be asked to design simple conceptual experiments in addition to solving problems.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 325 OR graduate standing.

Typically Offered
Other

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PHYS 701 - Cosmology

Credits: 3

A general-relativity-based discussion of the physics of the hot big bang model of the Universe.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 692 OR graduate standing.

Typically Offered
Fall-Even Years

PHYS 707 - Topics in Physics

Credits: 1-18

Special topics courses. Topics and credits announced for the semester in which offered. May be given in conjunction with lecture series by visiting scientists.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate OR senior standing, AND consent of instructor.

Typically Offered
Fall, Spring, Summer

PHYS 709 - Applied Quantum Mechanics

Credits: 3

A study of Schrödinger's theory of quantum mechanics and its application to one electron atoms, multielectron atoms, quantum statistics, spectra of molecules and selected topics in quantum excitations of solids, nuclear physics, and elementary particles.

Note
Three hours of lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 662 OR graduate standing.

Typically Offered
Fall

PHYS 741 - The Physics of Lasers

Credits: 3

The theory of lasers including Light-matter interactions, atomic rate equations, threshold and oscillation; resonators and cavity modes; and laser dynamics including Q-switching and mode-locking.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 652 OR graduate standing.

Typically Offered
On sufficient demand

PHYS 775 - Biological Physics

Credits: 3

This lecture course introduces basic cellular biology for students lacking a biological background and established connections between molecular and cellular phenomena (such as photosynthesis, cellular foraging, and nerve stimulation) and experimentally verifiable models built from physical (classical, statistical, and quantum mechanical, as well as electromagnetic) considerations.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 214 OR (PHYS 114 AND MATH 220) OR graduate standing.

Typically Offered
On sufficient demand

PHYS 800 - Problems in Physics I

Credits: 1

Independent study of the solution of advanced problems in physics at a level appropriate to the M.S. Degree.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing AND consent of instructor.

Typically Offered
Spring

PHYS 801 - Mathematical Methods of Physics

Credits: 3

Mathematical techniques for the solution of physical problems. Mathematical topics employed include vector and tensor analysis, matrices, group theory, complex variable theory, differential equations, Sturm-Liouville theory, orthogonal functions, special functions, Fourier series, integral transforms, and the calculus of variations.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing OR consent of instructor.

Typically Offered
Fall

PHYS 802 - Computational Methods in Physics

Credits: 4

Methods of solving physical problems using digital computers including numerical differentiation and integration, error analysis and curve fitting, interpolation, ordinary and partial differential equations, matrix operations, eigenvalues, special functions of mathematical physics. Monte Carlo simulations, and stability of solutions.

Note
Two hours lecture each week and a self-paced practicum.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing OR consent of instructor.

Typically Offered
Spring

PHYS 806 - Journal Club

Credits: 1-18

Seminar in current topics in physics.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing OR consent of instructor.

Typically Offered
Fall

PHYS 807 - Graduate Physics Seminar

Credits: 1

Lecture by faculty and graduate students on topics of current research interest.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing OR consent of instructor.

Typically Offered
Fall, Spring

PHYS 808 - Advanced Problems

Credits: 1-18

Independent study in a special problem in physics at the graduate level chosen with the advice of a faculty mentor.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing AND consent of instructor.

Typically Offered
Fall, Spring, Summer

PHYS 811 - Quantum Mechanics I

Credits: 3

Fundamental concepts and general formalisms of quantum theory and its applications to bound states, scattering or few state systems. Introduction to quantum applications of operators and state vectors.

Repeat for Credit
Y

Requisites
Prerequsite: PHYS 801.

Typically Offered
Spring

PHYS 821 - Advanced Dynamics

Credits: 3

Study of Lagrangian and Hamiltonian mechanics. Includes canonical transformations, the Hamilton-Jacobi equation, and elements of classical chaos theory.

Repeat for Credit
Y

Requisites
Prerequsite: PHYS 801.

Typically Offered
Spring

PHYS 831 - Electrodynamics I

Credits: 3

The interaction of electrical charges with each other and radiation as described by the theory of Maxwell and Lorentz. Topics include Coulomb's law and vector fields, Ampere's law and magnetic fields. Faraday's law and inductive fields, continuity relations and conservation laws.

Repeat for Credit
Y

Requisites
Prerequsite: PHYS 801.

Typically Offered
Fall

PHYS 850 - Theory of Atomic Structure and Atomic Interactions

Credits: 3

The quantum mechanics of atomic structure and spectra: one and two electron atoms, many electron atoms, molecular structure and spectra, atomic collision theory for electron-atom and ion-atom collisions.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing OR consent of instructor.

Typically Offered
Other

PHYS 860 - Electron and Ion Impact Phenomena

Credits: 3

Atomic collision phenomena; experimental techniques in accelerator-based atomic physics; charged particle and photon spectroscopy; elastic, inelastic, and rearrangement collisions; and applications.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing OR consent of instructor.

Typically Offered
Other

PHYS 870 - Nonlinear and Quantum Optics

Credits: 3

Theory and applications of nonlinear optics: difference and sum frequency generation; ultrashort pulse characterizations; third order effects; Raman scattering; and higher harmonic generation. Fundamentals of quantum optics including field quantization; coherent state; nonclassical light; and optical tests of quantum mechanics.

Repeat for Credit
N

Requisites
Prerequisite: Graduate standing OR consent of instructor.

Typically Offered
On sufficient demand

PHYS 881 - Introduction to Solid State Physics

Credits: 3

Introduction to the physics of condensed matter: crystal lattices; lattice dynamics; electron energy bands; fermi surfaces; optical, magnetic, and transport properties of insulators, semiconductors, and metals.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing OR consent of instructor.

Typically Offered
Other

PHYS 899 - Research in Physics

Credits: 1-18

Master's level research.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing AND consent of instructor.

Typically Offered
Fall, Spring, Summer

PHYS 907 - Advanced Topics in Physics

Credits: 0-18

Critical studies of selected advanced topics.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing AND consent of instructor.

Typically Offered
Other

PHYS 910 - Problems in Physics II

Credits: 1

Independent study of the solution of advanced problems in physics at a level appropriate to the Ph.D. Degree.

Repeat for Credit
Y

Typically Offered
Other

PHYS 911 - Quantum Mechanics II

Credits: 3

Formalisms and applications of quantum theory, including symmetry in quantum systems, space-time symmetries, the rotation group, many body systems, and an introduction to relativistic quantum mechanics.

Repeat for Credit
Y

Requisites
Prerequisite: PHYS 811.

Typically Offered
Fall

PHYS 912 - Advanced Quantum Mechanics

Credits: 3

Relativistic quantum mechanics; scattering theory; second quantization and the many-body problem. Introduction to quantum electrodymatics.

Repeat for Credit

Y

Requisites
Prerequisite: PHYS 911.

Typically Offered
On sufficient demand

PHYS 913 - Advanced Topics in Mathematical Physics

Credits: 3

Critical studies of selected advanced topics.

Repeat for Credit
Y

Requisites
Prerequisite: PHYS 801.

Typically Offered
Other

PHYS 914 - Quantum Field Theory

Credits: 3

Topics may include second quantization, quantization of the free scalar and Dirac fields, quantum electodynamics, quantization of the electromagnetic fild, propagators and Feynman rules, or other contemporary topics in quantum field theory.

Repeat for Credit
Y

Requisites
Prerequisite: PHYS 911.

Typically Offered
On sufficient demand

PHYS 915 - Quantum Field Theory II

Credits: 3

Topics may include: Radiative Corrections of QED; Gauge Theories; Weak Interactions, Gauge Theory of Weak Interactions, Spontaneous Symmetry Breaking, and the Standard Electroweak Theory; Field Theory Methods, and Path Integrals; Quantum Chromodynamics; Regularization; Asymptotic Freedom.

Repeat for Credit
N

Requisites
Prerequisite: PHYS 914.

Typically Offered
Fall-Even Years

PHYS 931 - Electrodynamics II

Credits: 3

The interaction of electrical charges with each other and radiation as described by the theory Maxwell and Lorentz. Topics include the propagation and production of radiation, Lorentz transformations and relativistic dynamics.

Repeat for Credit
Y

Requisites
Prerequisite: PHYS 831.

Typically Offered
Spring

PHYS 953 - Advanced Topics in Atomic Interactions

Credits: 1-18

Critical studies of advanced topics in atomic interactions.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing AND consent of instructor.

Typically Offered
Other

PHYS 971 - Statistical Mechanics

Credits: 3

The study of equilibrium states of physical systems involving many particles. Introduces basic concepts of statistical ensembles and presents applications to non-interacting systems for both classical and quantum-mechanical particles. Discusses aspects of interacting

classical systems, including a brief introduction to phase transitions and critical phenomena.

Repeat for Credit
Y

Requisites
Prerequisite: PHYS 821.

Typically Offered
Fall

PHYS 981 - Solid State Physics

Credits: 3

Quantized lattice vibrations, methods of band structure calculations, effective mass formulations, applications to optical absorption, excitons, magnetism, and superconductivity.

Note
Continuation of PHYS 881.

Repeat for Credit
Y

Requisites
Prerequisite: PHYS 811.

Typically Offered
Other

PHYS 982 - Advanced Topics in Solid State Physics

Credits: 3

Critical studies of selected advanced topics.

Repeat for Credit
Y

Requisites
Prerequisite: PHYS 881.

Typically Offered
Other

PHYS 999 - Research in Physics

Credits: 1-18

Doctoral level research.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing AND consent of instructor.

Typically Offered
Fall, Spring, Summer

PLAN 010 - Planning Field Trip 1

Credits: 0

Multi-day field trip experience in a location of planning significance. Students will learn about professional planning practice in location to develop planning knowledge base and apply findings to other courses.

Repeat for Credit
Y

Typically Offered
Spring

PLAN 020 - Planning Field Trip

Credits: 0

Multi-day field trip experience in a location of planning significance. Students will learn about professional planning practice in location to develop planning knowledge base and apply findings to other courses.

Repeat for Credit
N

Typically Offered
Spring

PLAN 115 - Introduction to Regional and Community Planning

Credits: 3

The origins and evolution of planning in response to economic, social, political, physical, and environmental issues. The planning process and its relationship to the design professions and the social and behavioral sciences.

Repeat for Credit
N

Typically Offered
Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Ethical Reasoning and Responsibility
Historical Perspectives

PLAN 215 - World Cities

Credits: 3

This course introduces undergraduates from a variety of disciplines to some of the major urban areas in the world, how and why they developed, what makes them unique, what it might be like to live there, and what issues they may face in achieving a sustainable future. This course gives students a way of thinking about cities in a global context that highlights both their differences and their similarities. Through lectures, text and other multi-media formats, students explore some of the main opportunities and challenges facing the inhabitants of large cities in today's world.

Repeat for Credit
N

Typically Offered
Spring

K-State Core
5 Social and Behavioral Sciences

K-State 8
Global Issues and Perspectives
Social Sciences

PLAN 316 - Planning Principles Seminar

Credits: 2

Discussion of the principles and process of regional and community planning as practiced by the profession. The tools, skills and knowledge of the planning professions are presented in a focused introduction to the profession.

Repeat for Credit
N

Requisites
Corequisite: PLAN 315, admission to the Regional and Community Planning program.

Typically Offered
Fall

PLAN 320 - Community Development Field Workshop

Credits: 3

This course integrates meaningful field experiences with in-class instruction and reflection to introduce students to community assets. Coursework focuses on critical thinking, cultural literacy, and applied classroom knowledge of community assets to encourage shared civic engagement.

Repeat for Credit
N

Requisites
Prerequisite or co-requisite: PLAN 115.

Typically Offered
Fall

K-State 8
Human Diversity within the U.S.
Ethical Reasoning and Responsibility

PLAN 444 - Career Planning Seminar

Credits: 2

Exploration and identification of career paths and development of academic plans for reaching personal and professional goals including specific coursework internships, study abroad and extracurricular activities.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 315.

Typically Offered
Fall

PLAN 510 - Graphic Composition and Representation for Planning

Credits: 2

A hands on, introductory course that prepares built environment professionals to meet the varying challenges of the practice world by making them familiar with digital graphic tools, representation and composition rules and skills, and color theory.

Repeat for Credit
N

Requisites
Corequisite: PLAN 215 or PLAN 315 and PLAN 640.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

PLAN 640 - Urban Design and Development

Credits: 3

Review of recent and historical developments of urban form and space, presented through lecture and discussion. Criteria and methodology for urban design and planning as well as the role of historic preservation.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 215 and PLAN 115.

Typically Offered
Fall

K-State 8
Historical Perspectives

PLAN 641 - Special Studies in Planning

Credits: 1-18

Special Studies in the area of regional and community planning.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PLAN 645 - Professional Internship Report

Credits: 1

Oral and graphic presentation of work completed in PLAN 703.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 703

Typically Offered
Fall

PLAN 650 - Housing and Development Programs

Credits: 3

Review and evaluation of historical and current housing issues, production, and financial systems, including consideration of racial, ethnic, income, and gender issues as they relate to the role of housing developments and programs in community development.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 315; ENGL 200.

Typically Offered
Spring

PLAN 655 - Land Development Planning

Credits: 3

Examination of the process of land development in the United States, and its impacts from the perspective of developers, financial institutions, community planners, and city administrators. Focus is on the understanding of the land development process in meeting community goals and shaping land development to meet community expectations for the improvement of the community. Conflict resolution and negotiation skills represent a communication emphasis.

Repeat for Credit
N

Requisites

Prerequisite: PLAN 315.

Typically Offered
Spring-Odd Years

K-State 8
Empirical and Quantitative Reasoning
Historical Perspectives

PLAN 660 - Community Development Planning

Credits: 3

Examination of past and present approaches to community development planning in the United States. Review and assessment of community development planning policies, programs and practices.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 315.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

PLAN 661 - Community Development Workshop

Credits: 3

The organization, planning, design, development, and evaluation of community development projects with real clients and actual locations.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

PLAN 665 - Professional Internship

Credits: 1-9

Internship with an approved planning sponsor subject to the approval of the departmental faculty.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 444.

Typically Offered
Fall, Spring, Summer

PLAN 667 - Transportation Planning

Credits: 3

The background, framing theories, professional activities and policy debates of transportation planning regarding transit, roads, non-motorized travel, energy use and climate change, land use, congestion, finance, economic development, health, safety, politics, asset management, politics, emerging technologies and the sharing economy.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives

PLAN 668 - Travel Demand Modeling

Credits: 3

The history, evolving theory, application, and debates surrounding travel demand modeling. Instruction in one of the main travel demand modeling software packages. Practical use of that software.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

PLAN 670 - Planning in POP Culture

Credits: 3

Planning in POP Culture is an exploratory educational adventure of regional and community planning issues through the cultural media of song, literature, visual art, and film.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

PLAN 672 - Collective Decisions

Credits: 3

Provides an introduction to planning as a collective decision-making tool; examines how planners work within a decision-making environment to move from regional and community planning concepts to implementing plans.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 315 or instructor permission.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

PLAN 674 - Regional Economic Development Policy

Credits: 3

Introduce students to the theory and practice of economic development at the sub-national level. Evaluate the design and implementation of economic development activities.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Social Sciences

PLAN 703 - Off-Campus Studies

Credits: 5

Off campus studies fulfilled in an approved professional office, in an approved international studies program, or at the Kansas City Design Center (KCDC).

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

PLAN 704 - Report Preparation

Credits: 3

Comprehensive data collection and analysis based on an approved research proposal.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 897

Typically Offered
Fall

PLAN 705 - Master's Project

Credits: 3

Comprehensive application of research and planning through individual studies approved by the department faculty.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 897

Typically Offered
Spring

PLAN 707 - Writing and Thinking the City

Credits: 3

Hands-on discussion and writing course focused on building an in-depth understanding of the growth, development and social dimensions of cities, and critical thinking and writing skills for built environment scholars and professionals.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 215 or PLAN 115.

Typically Offered
Fall

PLAN 718 - Principles and Strategies of Community Change

Credits: 3

This course prepares built environment professionals to address the field of community development through application of community development principles and strategies.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Human Diversity within the U.S.
Social Sciences

PLAN 720 - Infrastructure and Plan Implementation

Credits: 3

Examination of infrastructure systems, the transportation process, land-use, and development standards; consideration of policy options and strategies; review of financing options and regulatory requirements associated with the various infrastructure elements. The course also reviews social and other issues that affect and are affected by infrastructure related decisions.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 115 or PLAN 215.

Typically Offered
Fall

PLAN 730 - Planning Professional Practice

Credits: 3

Students will learn the functions of public and private sector professional practice including organizational structures, administration and management, and professional ethics.

Repeat for Credit
N

Typically Offered
Fall

PLAN 740 - Small Community and Rural Area Planning

Credits: 3

Synthesis of small community and rural area change, including socio-economic-political determinants as bases for community design and planning.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 115.

Typically Offered
Fall

PLAN 741 - Special Studies in Planning

Credits: 1-18

Special Studies in the area of regional and community planning.

Repeat for Credit
Y

Requisites
Prerequisite: PLAN 115.

Typically Offered
Fall, Spring, Summer

PLAN 749 - Metropolitan Planning and Design

Credits: 3

Examination of urban form and the making of livable and sustainable metropolitan regions from an urban design perspective. Introduction to public and private roles in the creation of urban form at regional, city, neighborhood, and site scales; consideration of regional and global consequences of local decisions; examination of design tools and methods used to shape decision making in urban development.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 115.

Typically Offered
Spring

PLAN 753 - Planning Law

Credits: 3

Examination of the evolution and current state of land use regulation within constitutional limits. Introduction to zoning, subdivision, and other police power controls within the comprehensive planning process.

Repeat for Credit
N

Typically Offered
Fall

PLAN 755 - Professional Practice: Discipline-Specific Topics

Credits: 1

Covers discipline-specific concerns, focusing on issues specific to architecture, interior architecture and product design, landscape architecture or regional and community planning.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 316.

Typically Offered
Fall, Spring

PLAN 765 - Growth Management

Credits: 3

Study of the process of city growth and change in relation to planning techniques and socio-economic-political determinants. Criteria and methodology for the growth management are reviewed and applied to the contemporary city.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 315, PLAN 720.

Typically Offered
Spring

PLAN 801 - Knowledge Methods

Credits: 3

A course on quantitative analytical methods for planners. The students will learn problem solving and data analysis in the planning profession such as population project, economic analysis and introductory statistics.

Repeat for Credit
N

Typically Offered
Fall

PLAN 802 - Planning Methods II

Credits: 3

The application of computer concepts to problem solving and data analysis in the planning profession for community demographic analysis, economic analysis, and market analysis. Included are elements of professional report preparation and visual graphic presentations of planning projects for use in public meetings and for public viewing. Material developed in PLAN 801 form the subject matter

of the presentations.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 801.

Typically Offered
Spring

PLAN 803 - Community Research Methods

Credits: 3

Focus is on the analytical tools for the selection, collection, analysis, and interpretation of regional and community policy planning activities. Included is the development of survey instruments and interpretation, work flow and work measurement skills, performance standards and program evaluation techniques for policy planning and analysis at the local governmental level.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 225, STAT 250, STAT 702, or STAT 703.

Typically Offered
Fall

PLAN 805 - Internship in Planning

Credits: 1-4

Assignment to a planning staff for a period of at least 10 weeks; supervision by a professional planner with periodic reports of activities to planning faculty.

Repeat for Credit
Y

Requisites
Prerequisite: Completion of two semesters of graduate study in planning.

Typically Offered
Fall, Spring, Summer

PLAN 812 - Planning Theory & Law

Credits: 3

A course on planning theory and planning law. Students will learn about the procedural theories and legal frameworks that support planning practice.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 115.

Typically Offered
Spring

PLAN 815 - Planning Theory, Ethics and Practice

Credits: 3

Review of the basic theories of regional and community growth and change, analysis of the process of urbanization in relation to societal determinants and environmental constraints, and the study of a process of planning for professional practice. Exploration of societal and human values in relation to issues of equity, social justice, economic welfare, and efficient use of resources, as well as ethical approaches to these issues.

Repeat for Credit
Y

Requisites
Prerequisite: PLAN 115.

Typically Offered
Spring

PLAN 836 - Plan Making

Credits: 5

This course is about plan-making. Students will learn criteria, standards, and methodology for community and/or regional analysis and planning, and apply them to the practice of planning.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 315, PLAN 720 and GEOG 508 or equivalent.

Typically Offered
Spring

PLAN 880 - Topics in Planning

Credits: 1-18

Independent study of selected concepts and trends in regional and community planning and development.

Repeat for Credit
Y

Requisites
Prerequisite: PLAN 803.

Typically Offered
Fall, Spring, Summer

PLAN 897 - Proposal Writing

Credits: 2-3

Exploration of procedures of planning, design, scheduling, organization, and management of a regional and community planning research project.

Note
Thesis students enroll for 2 credit hours. Master's Project and Report students enroll for 3 credit hours.

Repeat for Credit
Y

Requisites
Prerequisite: PLAN 707 and PLAN 801.

Typically Offered
Fall, Spring

Cross-listed
PLAN/LAR 897: Proposal Writing

PLAN 898 - Master's Report

Credits: 2

Comprehensive application of research and planning through individual studies approved by the department faculty.

Repeat for Credit
N

Requisites
Prerequisite: PLAN 704.
Corequisite: PLAN 705.

Typically Offered
Spring

PLAN 899 - Research in Planning

Credits: 0-18

Original research and advanced study in regional and community planning, urban design, and related fields for the master's report/thesis.

Repeat for Credit
Y

Requisites
Prerequisite: PLAN 803 or LAR 725 or ARCH 725 and completion of two semesters of graduate study in planning.

Typically Offered
Fall, Spring, Summer

PLPTH 495 - Undergraduate Research in Plant Pathology

Credits: 0-3

Research experience is offered in classical and molecular plant pathology and biotechnology.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Natural and Physical Sciences

PLPTH 500 - Principles of Plant Pathology

Credits: 3

An introductory class in the nature of plant pathogens and the cause, effect, and control of plant diseases. Diseases of

field and horticultural crops will be addressed.

Note
Two hours lecture, one 2-hour lab a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PLPTH 575 - Topics in Plant Pathology

Credits: 1-3

Discussions and lectures on important areas and contributions in the field of plant pathology.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Natural and Physical Sciences

PLPTH 576 - Special Topics in Plant Pathology

Credits: 1-3

Discussions and lectures on important areas and contributions in the field of plant pathology.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Natural and Physical Sciences

PLPTH 585 - Crop Diseases

Credits: 2

An overview of plant diseases associated with Kansas crops, with an emphasis on identification and management strategies.

Note
Two hour lecture and four hour lab a week. To meet first half of the semester.

Repeat for Credit
N

Requisites
Prerequisite: PLPTH 500.

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

PLPTH 587 - Turfgrass Diseases and Their Management

Credits: 1

Biology, diagnosis and integrated management of turfgrass diseases. Emphasis is on diseases of intensively maintained turfgrass.

Note
Two hours lecture and two hours lab a week, for the first five weeks of the semester.

Repeat for Credit
N

Requisites
Corequisite: HORT 582 and HORT 515

Typically Offered
Fall-Even Years

Cross-listed
HORT 587

K-State 8
Natural and Physical Sciences

PLPTH 590 - Landscape Diseases

Credits: 2

An overview of plant diseases associated with Kansas greenhouse and nursery production systems as well as landscape settings, with an emphasis on identification and management strategies.

Note
One hour lecture and one lab a week.

Repeat for Credit
N

Requisites
Prerequisite: PLPTH 500 or concurrent enrollment.

Typically Offered
Spring

K-State 8
Natural and Physical Sciences

PLPTH 610 - Biotechnology

Credits: 3

The use of biotechnology and molecular genetic approaches in plant and animal sciences. Emphasis is on the use of molecular techniques for plant and animal improvement.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 500 or BIOL 398.

Typically Offered
Fall

Cross-listed
AGRON 610

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

PLPTH 676 - Fusarium Laboratory Workshop

Credits: 1

A one-week laboratory/lecture course on the identification, systematics, physiology, mycotoxicology, genetics, and molecular biology of fungi in the genus Fusarium. Students should not be enrolled in any other class while attending this workshop.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 255 or BIOL 604; and consent of instructor.

Typically Offered
Summer-Odd Years

PLPTH 730 - Plant Nematology

Credits: 3

An introduction to the morphology, taxonomy, and ecology of phytoparasitic and free-living nematodes found in plants, soil, and fresh water. Emphasis is on the identification and control of plant parasitic nematodes and on lab techniques used in their study.

Note
Two hours lecture, one 2-hour lab a week.

Repeat for Credit
N

Requisites
Prerequisite: PLPTH 500.

Typically Offered
Spring-Even Years

PLPTH 732 - Introduction to Plant Resistance to Pests

Credits: 2

Basic concepts of the biology, ecology, genetics and breeding for pest resistance in plants.

Note
Four hours lecture and discussion a week. Meets first half of semester.

Repeat for Credit
N

Requisites
Prerequisite: ENTOM 300 or PLPTH 500 or ENTOM 312 and ENTOM 313, and one course in plant or animal genetics.

Typically Offered
Fall-Even Years

Cross-listed
ENTOM 732 and AGRON 732

PLPTH 750 - Problems in Plant Pathology

Credits: 1-3

Work is offered in general plant pathology, plant virology, plant nematology, disease physiology, epidemiology, and disease diagnosis.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PLPTH 755 - Plant Resistance to Diseases

Credits: 2

Survey of recent literature on conventional and novel strategies for obtaining durable resistance to plant diseases. Several well-characterized host/pathogen systems will be selected for in-depth analysis.

Note
Four hours lecture a week. To meet second half of semester for four hours per week.

Repeat for Credit
N

Requisites
Prerequisite: ENTOM 732 or PLPTH 732.

Typically Offered
Fall-Even Years

PLPTH 765 - Integrated Plant Disease Management

Credits: 2

Advanced topics in integrated plant disease management will be examined, including: epidemiological concepts, disease loss assessment, fungicides, resistance traits, on farm research trials and utilization of precision agriculture technologies to measure disease impacts.

Note
The course will meet the second eight weeks of the semester.

Repeat for Credit
N

Requisites
Prerequisite: PLPTH 590 or concurrent enrollment with PLPTH 585.

Typically Offered
Fall

PLPTH 812 - Introduction to Integrative Genome Analysis

Credits: 3

An introduction to genomics technologies genomics technologies, methods and approaches and their integration to the study of genome biology.

Note
Three hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 398 or ASI 500. Recommended Foundation Course: 700 level statistics course.

Typically Offered
Fall-Even Years

PLPTH 813 - Bioinformatics Applications

Credits: 3

This course will cover the basic principles of regular bioinformatics applications and emphasize the practice of bioinformatics in biological research. The course will introduce the use of computation skills in data analysis focused on the application of bioinformatics in next-generation sequencing (NGS). The goal of this course is to help students be prepared for the next-generation biological research that often generates large data and requires researchers to have the capability in data management and data mining.

Note
Two hour lecture and two hours lab per week.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: BIOL 398 or ASI 500 and a 700 level statistics course.

Typically Offered
Spring-Odd Years

PLPTH 820 - Population Genetics

Credits: 3

Theoretical basis for and applications of population genetic principles to populations of humans, domesticated plants and animals, and natural ecosystems.

Note
Three hours lecture/discussion per week.

Repeat for Credit
N

Requisites
Prerequisite: ASI 500, BIOCH 521, MATH 220, and STAT 510 or STAT 703.

Typically Offered
Spring-Odd Years

PLPTH 835 - Plant Virology

Credits: 3

A study of the composition, symptomatology, diagnosis, isolation, replications, molecular biology, genetics, and evolution of plant-infecting viruses.

Note
Two hours lecture a week plus one hour of recitation.

Repeat for Credit
N

Requisites
Prerequisite: ASI 500, BIOCH 521, BIOCH 522, and PLPTH 500.

Typically Offered
Fall-Odd Years

PLPTH 840 - Plant Pathogenic Bacteria

Credits: 2

Emphasizes the diversity, mechanisms of pathogenicity, host-parasite relations, control measures, and the principles and methods of identifying plant pathogenic bacteria.

Note
The course will meet for half of the semester. Four hours lec/ week.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 521, PLPTH 500.

Typically Offered
Spring-Odd Years

PLPTH 845 - Plant Pathogenic Fungi

Credits: 3

The isolation, handling, storage, inoculation, terminology and taxonomy of fungal pathogens of plants. Particular attention will be given to techniques used to study fungi and to the genus and species concepts for important plant pathogenic fungal genera.

Note
Two hr lecture, and one 3-hr lab a week.

Repeat for Credit
N

Requisites

Prerequisite: PLPTH 500 and BIOL 604.

Typically Offered
Fall-Even Years

PLPTH 850 - Introduction to R Programming for Biologists

Credits: 1

An introduction to the R programming environment for biological applications, including an overview of data management, graphics, introductory statistics, phylogenetic analyses, biomathematical modeling, and bioinformatics.

Note
Lec/recitation Four half days.

Repeat for Credit
N

Requisites
Prerequisite: One course in introductory statistics or quantitative biology.

Typically Offered
Summer

PLPTH 870 - Thesis/ Dissertation Proposal Seminar

Credits: 1

Theory and practice of research proposal development.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Spring

PLPTH 871 - Professional Communications in Plant Pathology

Credits: 1

Theory and practice of effective communication of plant pathology research and concepts to scientific and non-scientific audiences.

Note
Consent of instructor.

Repeat for Credit
N

Typically Offered
Fall

PLPTH 880 - Plant Molecular Biology

Credits: 3

A study of plant genes and genome organization, plant gene expression and regulation, and functional analysis of plant genes.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 521, PLPTH 610, or BIOL 541.

Typically Offered
Fall-Even Years

Cross-listed
AGRON 880

PLPTH 885 - Genomic Technologies Workshop

Credits: 2

Lecture and laboratory on the modern techniques to study genes and genomes.

Repeat for Credit
Y

Requisites
Recommended Foundation Course: One of the following courses: PLPTH 610, AGRON 610, BIOCH 521, BIOCH 522, BIOL 675, BIOL 676, PLPTH 680, AGRON 680

Typically Offered
Summer

PLPTH 898 - Master's Report

Credits: 1-2

Master's Report

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PLPTH 899 - Research in Plant Pathology for the MS Degree

Credits: 1-18

Work is offered in each of the major pathogen groups, genetics of plant-microbe interactions, disease physiology, ecology, and epidemiology.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PLPTH 905 - Ecology and Epidemiology of Plant Pathogens

Credits: 3

Experimental and theoretical approaches to the study of plant disease ecology in agricultural and natural systems.

Note
Three hours lecture a week.

Repeat for Credit
Y

Requisites
Prerequisite: A course in Statistics, a course in Calculus, and one of the following: PLPTH 500, PLPTH 730, PLPTH 835, PLPTH 840, PLPTH 845, or a course in Ecology.

Typically Offered
Spring-Even Years

PLPTH 910 - Molecular Plant-Microbe Interactions

Credits: 3

Discussions of molecular and genetic perspectives of resistant and susceptible interactions between plants and bacterial, viral and fungal pathogens. Evaluation of current hypotheses on the nature of disease resistance.

Repeat for Credit
N

Requisites
Prerequisite: PLPTH 500, BIOCH 521, and BIOL 500; BIOL 450 or ASI 500; PLPTH 835, PLPTH 840, or PLPTH 845.

Typically Offered
Fall-Odd Years

PLPTH 915 - Advanced Plant Genetics

Credits: 3

In-depth treatment of advanced concepts in molecular, quantitative, and cytogenetics of plants.

Note
Three hrs. lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: \AGRON 680.

Typically Offered
Fall-Odd Years

Cross-listed
AGRON 915

PLPTH 916 - Cytogenetics Laboratory

Credits: 1

An advanced laboratory course in classical and molecular cytogenetic techniques, C-banding and flourescence in situ hybridization techniques.

Note
Three hours lab a week.

Repeat for Credit
N

Requisites
Corequisite: PLPTH 915

Typically Offered
Fall-Odd Years

PLPTH 920 - Topics in Plant Pathology

Credits: 1-18

Discussions and lectures on important areas and contributions in the field of plant pathology.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PLPTH 921 - Special Topics in Plant Pathology

Credits: 1-18

Discussions and lectures on important areas and contributions in the field of plant pathology.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PLPTH 922 - Teaching Practicum in Plant Pathology

Credits: 1-2

Practical training in teaching courses offered in the Department of Plant Pathology. Most students will serve as Teaching Assistants.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PLPTH 927 - Fungal Genetics

Credits: 3

A study of the classical, molecular, and population aspects of fungal genetics in both model and commercially important systems. Topics to be discussed include genetic analysis via mitosis and meiosis, models of recombination, genetic control of fungal development, basic molecular genetics of fungi, and genetic factors affecting fungal population structure and stability.

Note
Three hours lecture discussion a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 521, ASI 500; Recommended Foundation Courses: BIOL 604 and a 600-level or higher course in genetics.

Typically Offered
Spring-Even Years

PLPTH 999 - Research in Plant Pathology for the PhD Degree

Credits: 1-18

Work is offered in each of the major pathogen groups, genetics of plant-microbe interactions, disease physiology, ecology, and epidemiology.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PMC 110 - Environmental Education and Leadership

Credits: 1

This course will help students develop and understand the value of outcome based outdoor recreation/environmental education experiences for youth. Students will gain experience in group dynamics and a variety of leadership approaches involving nationally recognized environmental education programs.

Note
Some local field trips are required.

Schedule by appointment.

Repeat for Credit
N

Requisites
Prerequisite: Park Management and Conservation majors only.

Typically Offered
Fall

K-State 8
Human Diversity within the U.S.

PMC 115 - Topics in Park Management and Conservation

Credits: 1-3

Discussion of topics and activities of importance in park management and conservation.

Note
Instructor permission required.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PMC 120 - Outdoor Recreation Certification

Credits: 0

This course is designed to provide the PMC major ability to obtain outdoor recreation certifications not directly taught by Kansas State University. Examples are numerous, and include Wilderness First Responder, Archery in Schools Instructor, Aquatic Facility Operator, Playground Inspector Certification, Leave No Trace. Certifications being accepted must involve a minimum of 16 hours of contact, exercise and assessment hours; or additional requirements can be added by PMC faculty to meet 16 hours of content.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PMC 210 - Intro to Outdoor Recreation

Credits: 3

Overview of the outdoor recreation industry and profession with emphasis on history of outdoor recreation in the U.S., current trends, public/private delivery systems, and associated individual and societal benefits. Highlights the breadth and diversity of the outdoor recreation industry and emphasizes the contributions and outcomes associated with outdoor recreation participation.

Note
Three hours lecture a week.

Repeat for Credit
N

Typically Offered
Fall

PMC 275 - Introduction to Natural Resource Management

Credits: 3

A survey of historic and present-day uses, problems, and basic management approaches associated with our renewable and nonrenewable natural resources. The impact of society, economics, law, politics, and philosophy on the management and use of our natural resources will also be examined.

Note
Three hours lecture a week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Natural and Physical Sciences

PMC 350 - Parks and Outdoor Recreation Practicum

Credits: 1-2

Required professional work experience (paid or volunteer), 120 hours minimum for 1 hour of credit; 240 hours minimum for 2 credit hours of credit. Designed to provide the future park and recreation professional an opportunity to apply acquired professional knowledge, skills and abilities in a supervised setting. A special problem allows the student to explore a topic/issue of professional interest.

Repeat for Credit
N

Requisites
Prerequisite: Completion of at least 12 PMC (prefixed) core hours.

Typically Offered
Fall, Spring, Summer

PMC 410 - Natural Resource Based Tourism

Credits: 3

This course will explore the obstacles and opportunities of using ecotourism and agritourism to contribute to rural economic development. Examples of successful ecotourism projects both domestically and internationally will be presented with an emphasis on the role of National Parks as tourism destinations. Agritourism efforts in Kansas will be highlighted and compared to similar efforts in other states and countries. Principles of attracting and managing tourists and park visitors in a sustainable manner also will be covered.

Repeat for Credit
N

Requisites
Prerequisite: PMC 275 Recommended Foundation Courses: PMC 210 and PMC 620.

Typically Offered
Fall

PMC 441 - Topics in Park Management and Conservation

Credits: 0-18

Discussion of topics and activities of importance in park management and conservation.

Note
Instructor permission required.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PMC 475 - Natural History for Park Professionals

Credits: 3

This course will introduce students to the vertebrate fauna of Kansas. Specifically, students will learn to identify the amphibians, reptiles, birds and mammals found regularly in Kansas parks and wildlife areas. The course will prepare students to take the Kansas Conservation Officer wildlife identification test as well as prepare park interpreters and managers to identify species found in their parks and educate the public about them.

Note
One hour lecture and one three-hour lab a week.

Repeat for Credit
N

Requisites
Prerequisite: PMC 275

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

PMC 489 - Outdoor Recreation Program and Event Development

Credits: 3

A focused study of the design, supply, and marketing of specific outdoor recreation programs and events. The

course will focus on tools and techniques of both the direct supply and facilitation of planned outdoor activities and events.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: PMC 275, Recommended Foundation Course: PMC 210

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

PMC 492 - Internship in Parks and Recreation

Credits: 6

An intensive, paid practical experience with an approved agency, extending over a 10-week, 400-hour span.

Note
For seniors only.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PMC 495 - Undergraduate Research in Park Management and Conservation

Credits: 0-3

Undergraduate students work with faculty mentors on projects involving various elements of research in PMC including identifying a problem, designing and conducting experiments, interpreting and communicating the research results. The completed project must be presented at a professional forum, and students are required to write a final project report on completion of their project.

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PMC 510 - Forestry for Park Professionals

Credits: 3

Principles and practices of managing forest resources in the park setting. Special emphasis will be given to tree management in high use areas such as parks where human visitors present special problems for tree survival and development.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Recommended Foundation Course: PMC 330.

Typically Offered
Fall

PMC 575 - Water Management for Natural Resource Managers

Credits: 3

A study of the management of water resources for public and commercial uses. The course investigates the use of rivers, lakes, reservoirs, and marine resources. Management considerations, including agency policy formation, legal rights, use conflicts, and use valuation are covered.

Note
Three hours lecture a week.

Repeat for Credit
N

Typically Offered
Fall

PMC 580 - Park Operations and Maintenance Management

Credits: 4

A focus on the principles and practices of operating and maintaining park and recreation areas and facilities. The focus of the course will be on the daily operation and related issues of various public parks (e.g. federal, state, county and municipal) and specific park features, including: campgrounds, trails and OHV areas, marinas, zoos, shooting ranges, aquatic facilities, and multipurpose sports complexes and limited facilities.

Note
Two hours lecture and two hours lab a week, with an extended 8 hour on-site lab experience.

Repeat for Credit
N

Typically Offered
Fall

PMC 620 - Park Planning and Design

Credits: 3

Analyzes park and protected area planning, its importance, the planning process from beginning to implementation, barriers to successful implementation, and problem-based solutions. Understanding the planning process, related planning policy and the importance of public involvement in the process are the main focus of this course.

Repeat for Credit
N

Requisites
Recommended Foundation Courses: PMC 210, PMC 275

Typically Offered
Spring

PMC 635 - Methods of Environmental Interpretation

Credits: 3

This course focuses on principles and techniques necessary to communicate environmental and cultural values to visitors in park areas. The philosophy, theory, design, and application of interpretive media to communicate information about the environment is studied.

Note
Two hours recitation and three hours lab a week. Field trips required.

Repeat for Credit
N

Requisites
Prerequisite: PMC 210 and PMC 275

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

PMC 690 - Parks and Recreation Administration

Credits: 4

This course will introduce students to the use of specific practices to effectively manage a contemporary leisure service enterprise. Special emphasis is placed on financial management, human resource management, policy development, risk management and general administrative operations.

Note
Four hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: PMC 275 and Junior standing or Senior standing

Typically Offered
Spring

PMC 740 - Advanced Environmental Interpretation

Credits: 3

This course builds on the principles and interpretive techniques which are introduced in PMC 635. Specifically, labs emphasize development of personal interpretive skills and students are introduced to interpretive media not covered in PMC 635 (e.g., video equipment, computers, etc.). The lecture and readings focus on the philosophy of interpretation and the theoretical framework for designing and evaluating interpretive strategies.

Note
One hour lecture and four hours lab a week. Field trips required.

Repeat for Credit
N

Requisites
Prerequisite: PMC 635.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

PMC 810 - Quantitative Research Methods in Park Management and Conservation

Credits: 3

An overview of quantitative research design and methods in park management and conservation settings, focusing on survey design, scale development, and associated statistical analyses.

Repeat for Credit
N

Typically Offered
Fall

PMC 820 - Outdoor Recreation Behavior

Credits: 3

The practical and theoretical basis of recreational use of public and private lands is examined in the context of ecosystem management. The statutory and regulatory policies and current issues regarding the management and use of lands in wilderness systems, wild and scenic river corridors, parks, and protected areas are discussed in detail. The impacts of recreational uses on the environment and conflicts with other uses of land and resources are discussed. Land use planning policies and decisions, which respond to recreation, wilderness and protected area issues will be examined.

Repeat for Credit
N

Typically Offered
Fall

PMC 830 - Conservation Attitudes and Behaviors

Credits: 3

Explores the development of the field, psychological constructs that influence behaviors, theories that explain the relationship of these constructs to conservation outcomes, strategies to foster a connection to nature, influencing responses to the natural and built environments, and how to cultivate sustainability through the adoption of conservation behaviors. The main focus is to understand the relationship of humans to nature and how this influences conservation.

Repeat for Credit
N

Typically Offered
Fall

POLSC 101 - Political Science First Year Orientation

Credits: 1

Each meeting of Political Science Freshman Seminar covers a topic related to student success, including student help sources such as tutoring and academic coaching, the Career Center, student involvement opportunities within the Political Science Department (such as research), the university, and community. In addition, students develop a graduation plan after going over degree requirements and gain competency in navigating KSU online resources.

Repeat for Credit
N

Typically Offered
Fall, Spring

POLSC 107 - Political Science Colloquium

Credits: 2

Topics in political science chosen to illustrate current research of political scientists and approaches to the study of politics. Each time the course is offered, a syllabus will outline the topics to be studied and the way the course will

be administered.

Note
Not open to political science majors.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

POLSC 110 - Introduction to Political Science

Credits: 3

Introduction to politics, public policy, and governmental processes from a political science perspective, studying political power, political thought, public opinion, groups, parties, institutions, public law, careers in politics, and related topics.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 111 - Introduction to Political Science, Honors

Credits: 4

Introduction to politics, public policy, and governmental processes. Distribution and use of political power, political thought, public opinion, groups, parties, institutions, public law, careers in politics, and related topics.

Repeat for Credit
N

Requisites
Prerequisite: Membership in arts and sciences honors program.

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 115 - U.S. Politics

Credits: 3

The national government with emphasis on constitutional principles, basic structure, functions, and the political process.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Historical Perspectives
Social Sciences

POLSC 135 - Introduction to Comparative Politics

Credits: 3

Comparative analysis of politics in both "developed" and "developing" countries. Though some attention will be given to abstract and theoretical concepts, the emphasis will be on the actual political process in the countries selected for study.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
5 Social and Behavioral Sciences

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 145 - World Politics

Credits: 3

Introduction to the study of politics among nations-states and other world actors, including a survey of major contemporary problems of world politics and focusing on the pursuit of power, order, wealth, and safe environment.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 155 - Introduction to Political Thought

Credits: 3

An introduction to the major themes and leading writers in political philosophy and a discussion of their application to modern politics. This course emphasizes learning how to read and appreciate classic texts.

Repeat for Credit
N

Typically Offered
Other

K-State Core
5 Social and Behavioral Sciences

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

POLSC 250 - Environmental Political Thought: The Future of Food, Air, Water, and Soil

Credits: 3

Environmental theories, with a concentration on the world's food production. Discusses important viewpoints past and present, including anarchist and socialist, New Right, liberal, conservative and democratic agrarian ideas concerning agriculture, food production and consumption, and how we should treat the environment in which we live.

Repeat for Credit
N

Typically Offered
Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

POLSC 307 - Introduction to Public Administration

Credits: 3

The basic concepts of public administration, with emphasis on orientation for citizen understanding; the place of administration and the role of the administrator in the American political process; the organization and activities of government in carrying out public policy; administrative functions, organization, accountability, finance, and personnel.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

POLSC 321 - Kansas Politics and Government

Credits: 3

An introduction to the political institutions of, the political behavior in and surrounding, and the public policies flowing from governmental units in the state of Kansas.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Historical Perspectives
Social Sciences

POLSC 326 - United States Politics, Honors

Credits: 4

The national government with emphasis on constitutional principles, basic structure, functions, and the political process.

Repeat for Credit
N

Requisites
Prerequisite: Membership in an honors program.

Typically Offered
Fall, Spring, Summer

K-State 8
Historical Perspectives
Social Sciences

POLSC 330 - Global Environmental Politics

Credits: 3

Examines international politics and policy surrounding efforts to address the human impact on the global environment. Course material identifies initiatives to address global environmental problems via international agreements, their design and efficacy, and their interaction with sustainable economic development.

Repeat for Credit
N

Typically Offered
Fall or Spring

POLSC 341 - Politics of the World Economy

Credits: 3

Addresses the reciprocal relationship between politics and economics in the management and functioning of the world economy. Explores the political influences on worldwide trade, financial, and investment flows as well as development policies and financial institutions.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 343 - American Foreign Policy

Credits: 3

Examination of American external relations since 1945 and evaluation of processes involved in the formulation and conduct of contemporary foreign policy of the United States.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Historical Perspectives
Social Sciences

POLSC 350 - Current Political Issues

Credits: 2

Each week a different political science faculty member or guest authority explains and analyzes current developments in state, national, and world affairs, using the news media as text material.

Note
Not for major credit.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Social Sciences

POLSC 355 - Contemporary Issues

Credits: 3

Study and analysis of selected political topics of immediate relevancy and concern.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

POLSC 360 - Race, Ethnicity, and Politics

Credits: 3

The course will address inequality and political power by examining the role of race and ethnicity in American politics and its contemporary significance to the nation's citizens, politicians, and governmental institutions. Among the specific topics covered are ethno-racial/political identities, political attitudes, partisanship, and voting. In addition, several contemporary public policy areas like policing, labor organizing, voting rights, and housing will be discussed.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

POLSC 366 - Practical Politics

Credits: 3

Strategies and techniques of running for office, organizing a campaign, mobilizing community resources, direct action lobbying, and related practical aspects of local level citizen politics.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

POLSC 372 - Ideologies: Their Origins and Impact

Credits: 3

Explores ideologies, including liberalism, conservatism, socialism, communism, and fascism. Their philosophical origins, transformation into systems of thought with mass appeal, and practical consequences are discussed. The conflict between ideology and philosophy is examined.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Historical Perspectives
Social Sciences

POLSC 377 - Introduction to Public Policy

Credits: 3

The process of public policy formation and analysis with emphasis on the relationship between decisions taken, values maximized, and the social impact of these decisions in over 10 policy areas.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110 or POLSC 115 or another social science course.

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

POLSC 388 - Latin American Politics

Credits: 3

Comparative analysis of selected political systems of Latin America emphasizing political inputs, political organization, and political outputs. special consideration is given to problems of political change.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 390 - Middle East Politics

Credits: 3

Comparative analysis of selected political systems in the Middle East including nationalism and the conflict of differing ideologies. Validity and usefulness of various theories of political development are tested.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 399 - Honors Seminar in Political Science

Credits: 1-3

Honors Seminar in Political Science

Repeat for Credit
N

Typically Offered
Fall

POLSC 400 - Political Inquiry and Analysis

Credits: 3

Underlying principles and techniques used in the conduct of political science research.

Repeat for Credit
N

Requisites
Prerequisite: Introductory social science course or consent of instructor.

Typically Offered
Other

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

POLSC 401 - Topics in Politics

Credits: 0-3

Different subjects in politics are selected for intensive study.

Repeat for Credit
Y

Typically Offered
Other

POLSC 420 - Primary Texts Seminar

Credits: 3

Emphasizes intellectual history through the lens of social and political development. Students will learn about the impacts of cultural developments such as the awakening of ancient idealism, Rennaissance philosophy and literature, the Scientific Revolution, the Enlightenment, and Postmodern philosophy and art.

Note
This course serves as the capstone class for the Primary Texts Certificate, and students in the program will complete their capstone paper within the context of the class, but the course open to all undergraduate students. This course is cross listed with DAS 420.
Weekly class discussion is required. All reading materials are supplied by the Primary Texts Certificate program.

Repeat for Credit

N

Typically Offered
Fall

Cross-listed
DAS 420

POLSC 499 - Honors Project

Credits: 3

Open only to Arts and Sciences students who are active members of the University Honors Program.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

POLSC 505 - South Asian Civilizations

Credits: 3

Interdisciplinary survey of recent and contemporary civilization in India, Pakistan, Sri Lanka, Bangladesh, Nepal, Bhutan, and Afghanistan, including geography, philosophy, social, economic, political institutions, and historical movements.

Repeat for Credit
N

Requisites
Prerequisite: 3 hours of social science or junior standing.

Typically Offered
Fall-Even Years

Cross-listed
GEOG 505, HIST 505, ECON 505, ANTH 505

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 510 - Internship in Government, Public Administration, and Politics

Credits: 1-6

Supervised field work at the international, national, state, and local levels of government or with political parties or other politically oriented voluntary organizations.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor and a minimum of one course in political science that is relevant to the internship area.

Typically Offered
Fall, Spring, Summer

POLSC 511 - Contemporary Chinese Politics

Credits: 3

Principal components of Communist Chinese ideology, conditions determining organizational structure, composition of present leadership, role of social forces, impact of external relations on other Asian nations and on the major world powers.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 135 or junior standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 524 - Political Islam

Credits: 3

Introduction to the main tenets of Muslim politics and a survey of thematic issues across the political systems in the Muslim world. Issues may include Muslim democracy, Islamist movements and political parties, Shia-Sunni conflict, Islamic law (shari'a), Islamophobia, violent organizations, Muslim public opinion, and the Arab Spring.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 135 or POLSC 155 or instructor permission.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Historical Perspectives

POLSC 525 - U.S. National Government and Politics

Credits: 3

Advanced overview of United States national government. Especially tailored to meet content area needs of prospective K-12 teachers. Topics to be addressed include: the constitution and the American founding; political and electoral processes; institutional structure and function; and, public policy.

Note
Non-majors only.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 115.

Typically Offered
Spring

K-State 8
Historical Perspectives
Social Sciences

POLSC 526 - Comparative Political Institutions

Credits: 3

Analysis of political institutions in comparative perspective, including institutional creation and change, the functions and effects of institutional arrangements, as well as how they structure political behavior.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 135

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives

POLSC 527 - Comparative Political Corruption

Credits: 3

Explores the meaning and origins of political corruption. Emphasizes constraints on power and the political economy of corruption-reform efforts from a comparative perspective.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 135

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 540 - Global Security Threats

Credits: 3

Analysis of global threats to the security of societies and individuals emphasizing issues outside the traditional scope of international relations theory.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 545 - The Politics of Developing Nations

Credits: 3

Comparative analysis of politics in emergent states with emphasis on process of modernization and nation building.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110 or POLSC 135 or sophomore standing.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 549 - International Defense Strategies

Credits: 3

Contemporary international strategies and defense policies with emphasis on nuclear, conventional, and guerrilla war, arms control and disarmament, diplomatic and political roles of the military.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 145, POLSC 341, or junior standing.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 550 - Political Geography and Geopolitics

Credits: 3

Critically analyzes relations between space and power in historical and contemporary geopolitical contexts, including topics such as sovereignty, border making, territorial disputes, and the formation (and dissolution) of nation-states.

Note
Cross-listed with GEOG 550

Repeat for Credit
N

Requisites
Recommended Foundation Course: POLSC 110 or POLSC 135 or POLSC 145

Typically Offered
Fall

Cross-listed
GEOG 550: Political Geography and Geopolitics

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 576 - Mass Communications and Political Campaigns

Credits: 3

The roles of journalism, advertising and public relations in political campaigns. Examines campaign communication strategies, staffing, and the roles of political consultants. Analyzes how voter decision making is affected by mass communications and how voters develop attitudes about candidates and issues.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 115.

Typically Offered
Other

K-State 8
Historical Perspectives
Social Sciences

POLSC 601 - Topics in Political Science

Credits: 3

Extensive exploration of a specific problem in political thought. American government, comparative politics, international relations, or public administration.

Repeat for Credit

Y

Requisites
Prerequisite: POLSC 400.

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

POLSC 603 - Political Parties and Elections

Credits: 3

Origins, structure and function of political parties. Dynamics of the two-party system. Roles of third parties. Analysis of election results and voting behavior.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110, POLSC 115 or junior standing.

Typically Offered
Fall

K-State 8
Historical Perspectives
Social Sciences

POLSC 604 - Interest Groups and Public Opinion

Credits: 3

Group theory and politics. Structure, internal politics, and techniques of interest groups and their impact on public policy. Formation and measurement of public opinion.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110 or POLSC 115.

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

POLSC 605 - The American Presidency

Credits: 3

The presidency as an institution, its evolution, congressional relationships, executive organization.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110, POLSC 115 or junior standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Social Sciences

POLSC 606 - Gender and Politics

Credits: 3

Analysis of the role of gender in political behavior, including gender differences in voting and political participation, legal and cultural restrictions on women's rights and political activity, and women's liberation and other gender-based political movements.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 545 or POLSC 115.

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

POLSC 607 - Administrative Law

Credits: 3

Legal analysis of the rule-making, adjudicatory, and enforcement functions of administrative agencies, with emphasis on constitutional framework, judicial review, requirements of procedural fairness, and rights of public employees.

Repeat for Credit
N

Requisites
Prerequisite: One course in political science, United States history, or legal or political philosophy.

Typically Offered
Spring

K-State 8
Historical Perspectives
Social Sciences

POLSC 608 - Political Participation in the United States

Credits: 3

A broad overview of the various tools of democracy; public opinion, political parties, interest groups, and elections.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110 or POLSC 115 or junior standing.

Typically Offered
Spring

K-State 8
Historical Perspectives
Social Sciences

POLSC 610 - Local Government Law

Credits: 3

Explores the dynamic relationship between states and cities. Major issues may include budget shortfalls, social issues, and sprawl. Focus on the legal framework of state and city powers, including the forms of government, state preemption, and home rule theory and practice.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110 or POLSC 115 or junior standing.

Typically Offered
Fall

K-State 8
Social Sciences

POLSC 611 - The Legislative Process

Credits: 3

Legislative decision-making in modern democracy with emphasis on the United States, the concept of representation, and political behavior of participants in the legislative process.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110, POLSC 115, or junior standing.

Typically Offered
Spring

K-State 8
Historical Perspectives
Social Sciences

POLSC 612 - The Judicial Process

Credits: 3

The structure, process, and politics of the American judicial system. Analysis of important issues concerning law and courts.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 115 or junior standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Social Sciences

POLSC 614 - Constitutional Law

Credits: 3

Principles of the American political system as prescribed by the Constitution and interpreted by Supreme Court

decisions, with emphasis on the institutions and powers of the national government, federalism, and property rights.

Repeat for Credit
N

Requisites
Prerequisite: One course in political science, United States history, or legal or political philosophy.

Typically Offered
Fall

K-State 8
Historical Perspectives
Social Sciences

POLSC 615 - The Constitution, Civil Rights and Civil Liberties

Credits: 3

The Constitution as a limitation on governmental power, with emphasis on Supreme Court decisions defining fundamental civil rights and liberties.

Repeat for Credit
N

Requisites
Prerequisite: One course in political science, United States history, or legal or political philosophy.

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

POLSC 618 - Urban Politics

Credits: 3

Fundamental problems of political power and decision making in urban suburban governmental settings.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110 or POLSC 115.

Typically Offered
Fall

K-State 8
Historical Perspectives
Social Sciences

POLSC 619 - Comparative Agriculture Politics and Policy

Credits: 3

Comparative examination of agricultural politics and policy with emphasis on decision making processes and the socio-political impacts of agricultural policy.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110, POLSC 135, or junior standing.

Typically Offered
Fall-Even Years

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 620 - State and Local Government

Credits: 3

The United States system of federalism with emphasis on a comparative analysis of the government and politics of the fifty states and their subdivisions.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110 or POLSC 115.

Typically Offered
Spring

K-State 8
Historical Perspectives
Social Sciences

POLSC 621 - West European Politics

Credits: 3

Comparative analysis of British, French, German, and Italian democracies, political systems.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 135.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 623 - South Asian Politics

Credits: 3

Analysis of selected political systems of South Asia.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 135, POLSC 505, or junior standing.

Typically Offered
Fall-Odd Years

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 625 - East Asian Politics

Credits: 3

Comparative analysis of selected political systems in East Asia, including consideration of the democratization process in the region.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110, POLSC 135, or junior standing.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 626 - African Politics

Credits: 3

Comparative analysis of selected political systems of sub-Sahara Africa, including consideration of problems of nationalism and development.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110, POLSC 135, or junior standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 627 - Eastern and Central European Politics

Credits: 3

Examination of comparative politics and policy in the countries of Easter and Central Europe.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 135.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 628 - Civic Engagement

Credits: 3

Seminar on the role of voluntary organizations and civic groups in American political life and the factors that lead

citizens to participate in both electoral and non-electoral activities.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 115 and junior standing.

Typically Offered
Fall, Spring, Summer

K-State 8
Human Diversity within the U.S.
Social Sciences

POLSC 629 - Development Policy and Administration

Credits: 3

Comparative examination of development policy, politics, and administration.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110, POLSC 135, POLSC 307, or POLSC 377.

Typically Offered
Fall-Odd Years

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 630 - Politics of Russia and the Former Soviet Union

Credits: 3

An overview of the major factors influencing the evolution of politics in Russia and the Soviet Union. Special emphasis is placed on the problems associated with the transition from a communist to a non-communist more democratic policy.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 135.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 638 - Ethnic Conflict

Credits: 3

Ethnic Conflict in Comparative Prospective. Comparative examination of ethnic conflicts across regions with the emphasis on Africa.

Repeat for Credit
N

Requisites
Prerequisite: Sophomore standing.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 642 - International Conflict

Credits: 3

Examines the nature of international political conflicts and the types of such conflicts.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 145.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 643 - Global Human Rights

Credits: 3

Introduction to human rights in the global system with a focus on the philosophical foundations, historical evolution, institutional development, and important actors in global human rights.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 145, POLSC 400.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 645 - International Politics of Europe

Credits: 3

Relationships among the countries of Europe since World War II. With emphasis on efforts to create a more unified European Community. Among the organizations that will be studied are the former Warsaw Pact, NATO, the European Parliament, and the European Union.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 145.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 647 - International Law

Credits: 3

Theories of international law, and general problems, such as: recognition, responsibility, war crimes, sources, evidence, codification, and settlement of disputes.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 145, POLSC 341, or junior standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 651 - International Organization

Credits: 3

Structure, functions, values, and effectiveness of international organizations with emphasis on the United Nations, European Union, and other regional arrangements.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 145, POLSC 341, or junior standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 652 - International Politics of South Asia

Credits: 3

Study of regional problems of South Asia and of international roles and foreign policies of South Asian states.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 135 or POLSC 623.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 653 - International Politics of the Middle East

Credits: 3

Consideration of the Arab-Israeli conflict, inter-Arab relations, foreign policies of Middle Eastern states, and the impact of the major foreign powers on the area.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 145, POLSC 135, or three hours of other social sciences.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 654 - International Politics of Africa

Credits: 3

The course analyzes contemporary relations among African countries including economic and political security, border claims, formal and informal economic relations, and regional groupings. The course also examines the relations between African countries, the United States and the former Soviet Union, and between African countries and the former colonial rulers.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 135, or junior standing.

Typically Offered
Other

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 655 - International Politics of Latin America

Credits: 3

Analysis of international relations of Latin America. Examining theoretical approaches to the study of Latin America's relations, United States Latin American relations, and comparative foreign policies of Latin American states. This course also explores special topics such as regional integration and geopolitics.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 145 or POLSC 341.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Social Sciences

POLSC 661 - Ancient and Medieval Political Thought

Credits: 3

Systematic study of ideas about law, politics, and government of great philosophers of Western civilization from Greek antiquity to the sixteenth century.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110, POLSC 155, or junior standing.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

POLSC 663 - Early Modern Political Thought

Credits: 3

Study of the development of Western political thought from the sixteenth century to the twentieth century.

Repeat for Credit
N

Requisites

Prerequisite: POLSC 110, POLSC 155, or POLSC 115 or junior standing.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

POLSC 667 - American Political Thought

Credits: 3

Political ideas underlying the American union, including the doctrine of rights, the nature of union, liberty, property, and democracy.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110, POLSC 155, POLSC 115 or three hours in other social sciences.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

POLSC 670 - Law, Politics, and Literature

Credits: 3

Classic and contemporary works of literature, including novels, plays, short stories, and poems, are used to explore themes in law and politics.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 155 or junior standing.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Social Sciences

POLSC 671 - Late Modern Political Thought

Credits: 3

Study of contemporary political ideas and social thought.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110, POLSC 155, POLSC 115, or junior standing.

Typically Offered
Other

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

POLSC 675 - Religion and Politics

Credits: 3

Focuses on religious life in America and its changing relationship to politics and government. Examination of the American founding as it relates to church/ state issues, the controversy over meaning of the First Amendment's establishment and free exercise clauses, and contemporary political agendas of mainline and evangelical churches.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110, POLSC 115, POLSC 155 or 3 hours in other social sciences.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

POLSC 700 - Research Methods in Political Science

Credits: 3

Principles of research design, of measurement of political phenomena, and of methods for collecting and analyzing political data.

Repeat for Credit
N

Requisites
POLSC 115 or POLSC 400 or graduate standing, or consent of the instructor

Typically Offered
Fall

POLSC 701 - Computer and Quantitative Analysis in Political Science

Credits: 3

Advanced data management, data analysis, and computing skills involved in conducting political science and public policy research.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 400 or POLSC 700.

Typically Offered
Spring

POLSC 702 - Public Administration and Society

Credits: 3

Introduction to the discipline and profession of public administration, which may include the cultural, constitutional, institutional, organizational, and ethical context of public administration. Introduction to central issues facing public administrators, using the related perspectives of management, politics, and law.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 115 or POLSC 307 or graduate standing, or consent of the instructor

Typically Offered
Fall

POLSC 707 - Comparative Administrative Systems

Credits: 3

Comparative analysis of public administration concepts and the morphology of administrative systems. Included are U.S., British,and French models and attempts by Third World countries to adapt these to their local cultures.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 135 or POLSC 307.

Typically Offered
Fall

POLSC 708 - Public Personnel Administration

Credits: 3

Personnel aspects of administration at all levels of government, including recruitment, selection, discrimination law, pay, and motivation. Emphasis on to those features unique to the public sector, e.g. civil service systems, public unions, and public sector ethics law.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 115, or POLSC 307 or graduate standing, or consent of the instructor

Typically Offered
Fall

POLSC 710 - Policy Analysis and Evaluation

Credits: 3

Methods of policy analysis and evaluation. Includes a discussion of the relationship between public policy and the distribution of values in society. Students analyze policies in an area of their choice; e.g., agriculture, business, health, income, trade.

Repeat for Credit
N

Requisites
Prerequisites: POLSC 115 or POLSC 400 or graduate standing, or consent of the instructor

Typically Offered
Spring

POLSC 711 - Administrative Ethics

Credits: 3

Ethical issues, approaches, and strategies in public service.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 115 or POLSC 307 or graduate standing, or consent of the instructor.

Typically Offered
Fall

POLSC 712 - Game Theory for Political Scientists

Credits: 3

Introduction to game theoretic models as applied to problems in American politics, international relations and comparative politics.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 115, POLSC 135, POLSC 155, POLSC 145.

Typically Offered
Fall, Spring, Summer

POLSC 731 - Comparative Civil-Military Relations

Credits: 3

A look at civil-military relations in the United States, Russia, Germany, and Spain. Primary focus will be on understanding the political role of the military in totalitarian, authoritarian, and democratic states.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 110, POLSC 135, or junior standing.

Typically Offered
Fall

POLSC 734 - State and Local Government Management

Credits: 3

Examines the main operations and important issues in administering governments at the state and local levels and the similarities and differences of their environment, institutions, organizations, and processes.

Repeat for Credit
N

Requisites
Prerequisite: Graduate Student Standing

Typically Offered
Summer

POLSC 735 - Public Organization Theory

Credits: 3

Theories of the structure and mission of public organizations. Explores the use of analytical questioning of various theories, to solve organizational problems.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 115 or POLSC 307.

Typically Offered
Fall

POLSC 736 - Strategic Management of Public and nonprofit Organizations

Credits: 3

Strategic management in the public sector of democratic societies. Provides a set of tools and research skills to focus thinking, judgment and decision making in order to act strategically.

Repeat for Credit
N

Requisites
Prerequisite: Graduate Student Standing

Typically Offered
Spring

POLSC 737 - Public Budgeting

Credits: 3

Budgeting as apart of our political system and as a fiscal process assists in allocating scarce resources. Overview of the budgetary decision-making process and the various budgetary approaches.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 307 or MANGT 220.

Typically Offered
Fall

POLSC 738 - Public Finance

Credits: 3

Economics of the public sector, addressing the fundamental issue of the appropriate role of government activity in a market economy. Behavioral consequences of government policy. Model construction to explain real world government policy making.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 737.

Typically Offered
Fall

POLSC 739 - Intergovernmental Relations

Credits: 3

Evolution of the intergovernmental system in the United States and internationally. Emphasis on federal, state, and local interrelationships.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

POLSC 740 - Nonprofit Financial Management

Credits: 3

Introduction to the major issues in nonprofit management. Highlights the unique nature of the nonprofit sector with government (public) and business (for-profit) sectors. Issues may include governance roles and responsibilities, ethics and risk management, financial management and resource generation, managing staff and volunteers, performance measurements, and the emerging trends that threaten nonprofits' tax-exempt status.

Repeat for Credit
N

Requisites
Prerequisite: Graduate Student standing.

Typically Offered
Fall

K-State 8
Human Diversity within the U.S.
Social Sciences

POLSC 754 - The Professional Diplomat and Foreign Policy Formulation

Credits: 3

Present day foreign policy formulation in the United States government, including the role of professional diplomats and foreign affairs specialists in the State Department and embassies abroad, as well as within other United States government agencies.

Repeat for Credit
N

Requisites
Prerequisite: POLSC 145.

Typically Offered
Fall

POLSC 756 - International Political Economy

Credits: 3

The course introduces students to the political and historical dimensions of the international economy, dimensions that include trade, monetary systems, foreign investment, aid, dependency, and global interdependence. This course also examines various theories and practices of the international system, the state, bureaucracies, interest groups, international organizations, bargaining processes, and distributive norms.

Repeat for Credit
N

Requisites
Prerequisite: ECON 110 and ECON 120, POLSC 145, POLSC 135, and POLSC 341, or junior standing.

Typically Offered
Other

POLSC 775 - Teaching the Bill of Rights

Credits: 1

Examines the rights protected by the United States Constitution and the ways that rights protected by the United States Constitution and the ways that rights empower citizens, limit government, and contribute to constitutional government. Explores how to teach effectively about rights.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

Cross-listed
EDCI 785

POLSC 780 - Engaged Citizens: Public Policy Issues and Processes

Credits: 3

Examines the teaching of the workings of constitutional government through the lens of the public policymaking processes and the roles of individual voters, organized publics, the media, and state and local governments in that process.

Repeat for Credit
N

Typically Offered
Summer

Cross-listed
EDCI 790

POLSC 781 - Teaching the Theoretical Foundations of Constitutional Government

Credits: 1

Examines the theories (e.g., natural rights, classical republicanism, and constitutionalism) and theorists (e.g., Aristotle, Locke, Hobbes, and Montesquieu) that most influenced constitutional thinking in the United States. Explores how to teach effectively about these theories and theorists.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

Cross-listed
EDCI 781

POLSC 782 - Teaching the Historical Origins of Constitutional Government

Credits: 1

Examines seminal ideas, documents, and events in the creation of the United States Constitution such as problems with the Articles of Confederation, the characteristics of good government, the debates at the Philadelphia Convention, the Federalist Papers, and the Antifederalist Papers. Explores how to teach effectively these ideas, document, and events.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

Cross-listed
EDCI 782

POLSC 783 - Teaching the Development of Constitutional Principals

Credits: 1

Examines the development of political ideas and constitutional thinking since the Founding. Focuses on how the Bill of Rights, the amendment process, judicial review, and the Fourteenth Amendment are used to empower and limit government. Explores how to teach effectively about developments in constitutional thought.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

Cross-listed
EDCI 783

POLSC 784 - Teaching the Institutions of Government

Credits: 1

Examines the powers, limits, and development of political institutions such as Congress, the President, the Supreme Court, and political parties. Explores how to teach effectively about these institutions.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

Cross-listed
EDCI 784

POLSC 785 - Readings in Political Science

Credits: 3

Directed reading and discussion of a selected topic in political science.

Repeat for Credit
Y

Typically Offered
Fall, Spring

POLSC 787 - Teaching Citizenship

Credits: 1

Examines development of the rights, responsibilities, and challenges of citizenship in the United States. Explores how to teach effectively about citizenship.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

Cross-listed
EDCI 787

POLSC 788 - Teaching the Constitutional Principles of America's Founders

Credits: 3

Develops constitutional principles; explores perspectives of constitutional interpretation, change, and preservation; raises questions about the immediate and enduring significance of America's founding principles and documents; and introduces sound pedagogical practices to teach about them.

Repeat for Credit
N

Typically Offered
Fall

Cross-listed
EDCI 788

POLSC 789 - Methods and Materials in Civic Education

Credits: 3

Focuses on the pedagogical aspects of civic education and engagement such as research-based approaches to concept attainment, skill development, discussion, and deliberation as well as analysis of curriculum materials and programs that apply these pedagogies.

Repeat for Credit
N

Typically Offered
Spring

Cross-listed
EDCI 789

POLSC 790 - Problems in Political Science

Credits: 3

Students will complete a research project and prepare an original paper under the supervision of a faculty member.

Repeat for Credit
Y

Typically Offered
Fall, Spring

POLSC 791 - Topics in Political Science

Credits: 3

Extensive exploration of a specific problem in political thought. American government, comparative politics, international relations, and public administration.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

POLSC 799 - Pro-Seminar in Political Science

Credits: 3

Study and analysis in various areas of the discipline with emphasis on critical evaluation of political conflicts and issues.

Repeat for Credit
Y

Typically Offered
Fall, Spring

POLSC 800 - Seminar: Scope and Methodology of Political Science

Credits: 3

Exploration of theoretical foundations of political science, and critique of various analytical models in the study of political phenomena; construction and application of research designs and techniques.

Repeat for Credit
Y

Typically Offered
Other

POLSC 805 - Seminar in American Government

Credits: 3

This seminar introduces students to the methods and the theories used to study American politics. Topics to be addressed include the constitution and the American founding, political and electoral processes, institutional structure and function, and public policy. Exams and a seminar paper are required.

Repeat for Credit
Y

Typically Offered
Fall

POLSC 810 - Security Studies Methodology

Credits: 2

An exploration of commonly used research methods in history and political science. Students will investigate quantitative and qualitative humanities and social sciences methodology through selected readings and limited research exercises.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
HIST 810.

POLSC 811 - Seminar in International Politics

Credits: 3

The seminar introduces students to the different school of

thought in international relations as well as the different methods used to study the subject. It also analyzes middle range theories on subjects such as the causes of interstate conflict, the democratic peace, and foreign policy decision-making. Exams and a seminar paper are required.

Repeat for Credit
Y

Typically Offered
Spring

POLSC 812 - Foundations of Security Studies

Credits: 3

An interdisciplinary introduction to the major historical developments and scholarly approaches in the fields of military history, international relations, and security studies.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

POLSC 813 - International Security

Credits: 3

Surveys traditional issues in the study of international security such as the causes of war, the utility of deterrence, coercion, and engagement, international intervention, and the proliferation of weapons of mass destruction. Attention will also be placed on security and conflict in important regional settings, such as East Asia and the Middle East.

Repeat for Credit
Y

Typically Offered
Fall

POLSC 814 - Terrorism and Transnational Security Issues

Credits: 3

Introduction to the general aspects of terrorism and counter-terrorism in order to build transnational security. The course examines these issues in terms of forms, causal factors, goals, and consequences. The main objective is to understand terrorism as part of new international security issues such as failed states, environmental degradation, demographic explosion and poverty, conflict in developing world, post-conflict reconstruction, income distribution, humanitarian emergencies, and globalization.

Repeat for Credit
Y

Typically Offered
Fall

POLSC 815 - Research Design in Security Studies

Credits: 1

An exploration of research methods in history and political science culminating in a piece of original research in Security Studies.

Repeat for Credit
Y

Requisites
Prerequisite: POLSC 810

Typically Offered
Fall, Spring

Cross-listed
HIST 815

POLSC 821 - Seminar: Political Thought

Credits: 3

A study of the history of political philosophy as well as contemporary scholarship. Political philosophy as a subdiscipline of political science and its relevance for other subdisciplines as well as for leadership and administration. Class discussion and research training will focus on textual analysis, or exegesis. Course requirements include a major research paper.

Repeat for Credit
Y

Typically Offered
Spring

POLSC 831 - Public Administration Capstone

Credits: 3

Students integrate previous classroom learning with practical experience. Operation of a government agency on a day-to-day basis. The meaning of public service and communication in the public sector.

Repeat for Credit
N

Requisites
Prerequisite: Graduate student standing.

Typically Offered
Spring

POLSC 841 - Seminar: Comparative Politics

Credits: 3

The seminar introduces students to the methods and theories of comparative politics as well as critical analysis of various topics in political science such as institution and institutional change, social movements and state building, regime and development, political parties and electoral processes, policy making and political performance. Course requirements include two exams, book reviews, research design, and a major research paper.

Repeat for Credit
Y

Typically Offered
Fall

POLSC 842 - Seminar in Comparative Ideologies

Credits: 3

This seminar provides a graduate level exploration of ideologies such as liberalism, conservatism, socialism, communism, and fascism. The tension between ideology and philosophy is also examined.

Repeat for Credit
Y

Typically Offered
Other

POLSC 897 - Internship

Credits: 1-6

Directed off-campus employment experience.

Note
Must be taken for a total of 3 hours.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

POLSC 898 - Master's Report

Credits: 0-18

Master's Report

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

POLSC 899 - Master's Thesis

Credits: 6

Master's Thesis

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

POLSC 900 - Advanced Research Methods I

Credits: 3

The first of a two course methods sequence in security studies. Surveys the role of theory, hypotheses testing, operationalization and measurement, and research design in social science. Case study and historical methods will be given particular attention. Students will also be provided with a brief introduction to quantitative social science analysis.

Repeat for Credit

Y

Typically Offered
Fall

POLSC 901 - Advanced Research Methods II

Credits: 3

The course is the second in the sequence of two method courses in security studies. It emphasized quantitative analysis in political science and covers regression analysis, violation of regression assumptions, and logit models. The course also introduces students to time series, decision theory, and game theory.

Repeat for Credit
Y

Requisites
Prerequisite: POLSC 900.

Typically Offered
Spring

POLSC 985 - Readings in Security Studies

Credits: 1-6

Directed reading and discussion of a selected topic in international security.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

POLSC 991 - Topics in Security Studies

Credits: 3

Exploration of a specific issue in one of the fields or areas of international security.

Note
Specific topics will be listed in the class schedule for the semester in which they are offered.

Repeat for Credit
Y

Requisites
Prerequisite: POLSC 900 and POLSC 901.

Typically Offered
Fall, Spring, Summer

POLSC 999 - PhD Research in Security Studies

Credits: 1-15

PhD research culminating in completed PhD dissertation.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

PORT 572 - Special Studies in Portuguese

Credits: 1-3

Special Studies in Portuguese

Repeat for Credit
N

Requisites
Prerequisite: 15 hours of Portuguese and consent of instructor.

Typically Offered
Other

PPIL 101 - FAA Pilot Certificate Validation

Credits: 1-4

Flight and knowledge validation of FAA pilot certifcates.

Repeat for Credit
N

Requisites
Prerequisite: Instructor permission.

Typically Offered
Fall, Spring, Summer

PPIL 108 - Private Pilot Flight Lab Solo

Credits: 0.5

This course provides students with basic flight knowledge and fundamentals for solo flight as outlined by the Federal Aviation Administration (FAA). The successful completion of this course is the solo stage check.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Corequisite: PPIL 111

Typically Offered
Fall, Spring, Summer

PPIL 110 - Private Pilot Flight Lab Certification

Credits: 0.5

A continuation of PPIL 108 after solo flight and stage check. Upon completion of the course, students will meet the requirements for the FAA Private Pilot Certificate.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 108
Corequisite: PPIL 111

Typically Offered
Fall, Spring, Summer

PPIL 111 - Private Pilot

Credits: 4

The subject areas necessary for completion and passing of the FAA Private Pilot Knowledge Test are presented.

Note
Four hours recitation a week.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

PPIL 112 - Professional Instrument Pilot

Credits: 3

A study of the procedures, regulations, and techniques required to safely fly in instrument meteorological conditions within our national airspace system. The course will prepare the student to pass the FAA Instrument Airplane Knowledge Test.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 111
Corequisite: MATH 100.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

PPIL 113 - Private Pilot Flight Lab

Credits: 1

An introduction of the fundamentals of flight. Solo flights to include all flight operations and maneuvers necessary for meeting the aeronautical experience for the FAA Private Pilot Certificate.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Corequisite: PPIL 111.

Typically Offered
Fall, Spring, Summer

PPIL 114 - Professional Instrument Pilot Flight Lab

Credits: 1

Instructional flight training necessary to maneuver the aircraft safely in actual or simulated instrument meteorological conditions within the national airspace system.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 111, PPIL 113. Corequisite: PPIL 112.

Typically Offered
Fall, Spring, Summer

PPIL 196 - VFR Pilot Proficiency Lab

Credits: 1

Instruction and flight training necessary to safely operate an aircraft to meet the Federal Aviation Regulations. This course provides the student the opportunity to review and demonstrate proficiency to satisfactorily meet the FAA regulations for the current ratings held.

Note: Successful completion will result in a flight review required by FAR 61.56.

Note
Please add to description: Successful completion will result in a flight review required by FAR 61.56.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

PPIL 197 - IFR Pilot Proficiency Lab

Credits: 1

Instruction, simulator, and flight training necessary to safely operate an aircraft, to meet and maintain the Federal Aviation Regulations currency requirement of Instrument Competency, and maintain instrument currency and proficiency.

Note: Successful completion will result in an Instrument Proficiency Check (IPC) required by FAR 61.57d.

Note
Catalog change only

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

PPIL 210 - Aviation Safety

Credits: 3

This course provides an introduction to the field of aviation safety with an emphasis on promoting a safety culture. Various safety programs and their relevance in the field of aviation are discussed. Students will examine numerous accident reports and discuss safety issues facing the aviation industry today.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

PPIL 211 - Professional Commercial Pilot

Credits: 3

The subject areas necessary for passing the FAA Commercial Pilot Knowledge Test.

Note
Three hours recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 112, PPIL 114.

Typically Offered
Fall, Spring

K-State 8

Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

PPIL 212 - Professional Commercial Pilot Flight Lab I

Credits: 2

Instructional cross country flight training necessary to maneuver the aircraft safely in actual or simulated instrument meteorological conditions within the national airspace system.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 112, PPIL 114. Corequisite: PPIL 211.

Typically Offered
Fall, Spring, Summer

PPIL 213 - Professional Commercial Pilot Flight Lab II

Credits: 2

An introduction to complex airplane operations and a review of those operations required of a commercial pilot. The completion of this course readies the student to take the commercial FAA Practical test.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 212.

Typically Offered
Fall, Spring, Summer

PPIL 214 - Extended Cross Country

Credits: 1

A characteristic of aviation is that aircraft can cover a large geographic area. Aircraft operations in other geographic areas may differ greatly from a student's training base. The experience of long-range navigation can be a great learning experience as well as a confidence booster. Selection of a destination that allows the student to increase their knowledge of aviation also aids in producing a more well-rounded, responsible professional.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 113.

Typically Offered
Other

PPIL 215 - Mountain Flying

Credits: 1

A characteristic of aviation is that aircraft can cover a large geographic area. Aircraft operations in mountainous areas may differ greatly from a student's training. The experience of reduced aircraft performance caused by high-density altitudes can be a great training into operations with aircraft exhibiting marginal performance. Learning of weather patterns, hypoxia, and survival allows the student to increase their knowledge of aviation and also aids in producing a more well-rounded, responsible professional.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 114 and instructor consent.

Typically Offered
On sufficient demand

PPIL 216 - Altitude Chamber

Credits: 1

This course offers a 1-day aviation physiology course for civil aviation pilots through the CAMI's Aeromedical Education Division in Oklahoma City, OK. In addition to the basic academic contents, this course offers practical demonstrations of rapid decompression and hypoxia in a hypobaric chamber, as well as a practical demonstration of spatial disorientation. Upon completion of the course students will receive a certificate noting that they have completed the FAA's Physiological Training course. The

FFA requires a current Aviation Medical Certificate.

Repeat for Credit
N

Typically Offered
Fall, Spring

PPIL 217 - Glider Towing

Credits: 1

Instruction and flight training necessary to obtain a logbook endorsement in the techniques and procedures for the safe towing of gliders.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 113.

Typically Offered
Fall

PPIL 219 - Single Engine Seaplane Transition

Credits: 1

Instruction and flight training necessary to add the seaplane rating to the commercial pilot certificate. Course requires a one-week trip to a specified contract training location.

Note
One hour lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 213.

Typically Offered
Spring

PPIL 221 - Preventive Maintenance

Credits: 2

This course will give the student hands-on experience with the maintenance tasks allowed under FAR 43 entitled preventive maintenance.

Note
One hour lecture and two hours lab a week.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

PPIL 230 - Private Pilot Glider Transition

Credits: 1

Instruction and flight training in the design, performance, operating characteristics, and flight proficiency for the safe operation of glider aircraft that will lead to an Private Pilot Glider certificate. This course provides students the opportunity to enhance and develop their skills in this segment of aviation.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 113.

Typically Offered
Other

K-State 8
Natural and Physical Sciences

PPIL 231 - Commercial Pilot Glider Transition

Credits: 1

Instruction and flight training in the design, performance, operating characteristics, and flight proficiency for the safe operation of glider aircraft that will lead to a commercial pilot glider certificate. This course provides students the opportunity to enhance and develop their skills in this segment of aviation.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 213 and PPIL 230.

Typically Offered

Other

K-State 8
Natural and Physical Sciences

PPIL 262 - Multi-Engine Ground School

Credits: 1

Ground instruction covering multi-engine aircraft to develop the aeronautical knowledge to meet the ground school requirements for a multi-engine land class rating.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 211.

Typically Offered
Fall, Spring, Summer

PPIL 263 - Multi-Engine Flight Lab

Credits: 1

Flight instruction and experience in a multi-engine aircraft to develop the aeronautical skills to meet the requirements to add a multi-engine land class rating to the student's existing pilot certificate.

Note
Three hours lab a week.

Repeat for Credit
N

Requisites
Corequisite: PPIL 262.

Typically Offered
Fall, Spring, Summer

K-State 8
Natural and Physical Sciences

PPIL 290 - Multi-Engine Crew Coordination

Credits: 1

Instruction, simulator and flight training necessary to operate a multi-engine aircraft as a member of a crew. Enhances multi-engine, instrument and cross country skills.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 211, PPIL 263.

Typically Offered
Other

PPIL 295 - Tailwheel Transition

Credits: 1

Instruction and flight training in the design, performance, operating characteristics, and flight proficiency for the safe operation of conventional-geared (tailwheel) aircraft that will lead to an endorsement allowing the student to act as pilot-in-command. This course provides students the opportunity to enhance and develop their skills in this segment of aviation.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 113.

Typically Offered
Other

K-State 8
Natural and Physical Sciences

PPIL 296 - Complex/High Performance Transition

Credits: 1

Instruction and flight training in the design, performance, operating characteristics, and flight proficiency for the safe operation of complex/high performance aircraft that will lead to endorsements allowing the student to act as pilot-in-command. This course provides students the opportunity to enhance and develop their skills.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 211

Typically Offered
Fall, Spring, Summer

PPIL 310 - Fundamentals of Instruction/Advanced Ground Instructor Ground School

Credits: 3

This course will prepare the student for the Federal Aviation Administration (FAA) Fundamentals of Instruction (FOI) and Advanced Ground Instructor (AGI) Knowledge Tests.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 211

Typically Offered
Fall, Spring

PPIL 311 - Certificated Flight Instructor-Airplane Ground School

Credits: 3

Instruction techniques, practices, and procedures necessary to provide skill in organizing and presenting lessons. This course will prepare the student for the FAA Certificated Flight Instructor-Airplane practical test and the Flight Instructor Airplane (FIA) Knowledge Test.

Repeat for Credit
N

Requisites
Co-requisite: PPIL 213 and PPIL 310

Typically Offered
Fall, Spring

PPIL 312 - Certified Flight Instructor Ground School

Credits: 6

Instruction techniques, practices, and procedures necessary to provide skill in organizing and presenting lessons. This course will prepare the student for the FAA Certified Instructor Knowledge Test.

Note
Six hours recitation a week.

Repeat for Credit
N

Requisites
Co-requisite: PPIL 213.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

PPIL 314 - Certified Flight Instructor Flight Lab

Credits: 2

The needed flight skills and proper display of teaching ability will be emphasized. The demonstration of flight maneuvers with recognition of common errors in students performing the demonstrated maneuvers is stressed.

Note
Six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 213. Concurrent enrollment: PPIL 311 or PPIL 312.

Typically Offered
Fall, Spring, Summer

PPIL 325 - Advanced Aircraft Systems

Credits: 3

Electrical, environmental, hydraulic, fuel, ignition, and lubrication systems, including theory of operation and calculations. Principles, systems, analysis, operation, and limitations of advanced electronic navigation, flight director, and automatic flight control systems, including Inertial Navigation Systems and GPS.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 211.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PPIL 379 - Turbine Transition

Credits: 3

To provide required knowledge to meet FAA requirements to operate as second-in-command in KSU transportation aircraft. Covers systems performance and emergency procedures for turbine aircraft. In conjunction with simulator training, students will be qualified to operate as co-pilots on university transportation trips.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 213.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PPIL 385 - Airline Transport Pilot Rating

Credits: 2

Provides the student with the aeronautical knowledge necessary to prepare for the FAA Airline Transport Pilot Knowledge Test. The demonstration of flight maneuvers, with recognition of proper control of emergencies in compliance of the Airline Transport Pilot Practical Test Standards will be stressed.

Note
One hour lecture and three hours lab a week.

Repeat for Credit
N

Typically Offered
Other

PPIL 387 - Crew Resource Management I

Credits: 3

This course involves using all available resources for a safe and efficient flight. Aircraft crew performance is reviewed to include the background and philosophy of Crew Resource Management (CRM) communication, decision behavior, team building, workload management, and situational awareness. Students accomplish two flight scenarios using modern advanced jet aircraft training device.

Note
Two hours lecture and four hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 262, PPIL 325.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

PPIL 389 - Problems in Aviation

Credits: 1-18

To provide the student an opportunity to apply aviation education to the improvement of skills previously learned as designated by the instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PPIL 396 - Introduction to Upset Training and Recovery

Credits: 1

Instruction and flight training necessary to develop an understanding and flight proficiency in basic upset flight

attitudes. This course provides the student the opportunity to develop a better understanding of aircraft and safety of flight in other than normal flight attitudes.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 114.

Typically Offered
Other

K-State 8
Natural and Physical Sciences

PPIL 416 - Crew Resource Management II

Credits: 3

Utilizing a modern advanced jet aircraft training device, special emphasis is placed on systems knowledge, Flight Management Systems (FMS) programming, flight profiles and cockpit flows. Students fly Line Orientated Flight Training (LOFT) missions and self-critique their performance.

Note
One hour lecture and five hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 387 and AVT 340.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

PPIL 482 - Certified Instrument Flight Instructor Ground School

Credits: 1

Instrument instruction techniques, practices, and procedures necessary to provide skills in organizing and presenting lessons in instrument flying procedures. This course will prepare the student for the FAA Certified Instrument Flight Instructor knowledge test.

Note
One hour recitation per week.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 311 or PPIL 312.

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility

PPIL 483 - Certified Instrument Flight Instructor Lab

Credits: 1

Instrument instruction techniques, practices, and procedures necessary to provide skills in organizing and presenting lessons in instrument flying procedures. This course will prepare the student for the FAA Certified Instrument Flight Instructor practical test.

Note
Three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 314. Prerequisite or corequisite: PPIL 482.

Typically Offered
Fall, Spring, Summer

PPIL 492 - Certified Multi-Engine Flight Instructor Ground School

Credits: 1

Provides the student with the aeronautical knowledge necessary to meet the requirements for the addition of an airplane, multi-engine rating to the flight instructor certificate.

Note
One hour recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 311 or PPIL 312, PPIL 314.

Typically Offered
Fall, Spring

PPIL 493 - Certified Multi-Engine Flight Instructor Lab

Credits: 1

Provides the student with the aeronautical skills and experience necessary to meet the requirements for the addition of an airplane, multi-engine rating to the flight instructor certificate.

Note
Three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: PPIL 314. Prerequisite or corequisite: PPIL 492.

Typically Offered
Fall, Spring, Summer

PSYCH 110 - General Psychology

Credits: 3

An introductory survey of the general content areas of psychology, including methods, data and principles.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

PSYCH 115 - General Psychology (Honors)

Credits: 4

An introductory survey of the general content areas of psychology, including methods, data and principles.

Repeat for Credit
N

Typically Offered
Spring

K-State Core
5 Social and Behavioral Sciences

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

PSYCH 120 - Psychology of College Success

Credits: 3

Apply psychological techniques to succeed in college. Psychological theories and techniques related to cognition, social behavior and emotional well-being are covered. Students will discuss the science behind topics that are relevant to academic performance, belonging, and well-being, such as learning, motivation, self-control, culture, relationships, health, and happiness.

Repeat for Credit
N

Typically Offered
Fall or Spring

K-State 8
Social Sciences

PSYCH 202 - Drugs and Behavior

Credits: 3

Effects of drugs on human performance, cognition, and physiological processes will be discussed and the empirical evidence surveyed and critically evaluated in relation to both use and abuse of drugs in society.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Fall, Spring

K-State Core
5 Social and Behavioral Sciences

K-State 8
Natural and Physical Sciences
Social Sciences

PSYCH 270 - Brain Myths: Fact or Fiction?

Credits: 3

Introduction to the basic principles of brain function and neuroscience methodology. Popular press and peer reviewed scientific literature will be critically evaluated to develop scientific literacy skills.

Repeat for Credit
N

Requisites
PSYCH 110 or instructor permission

Typically Offered
Fall, Spring

PSYCH 280 - Psychology of Childhood and Adolescence

Credits: 3

Survey of behavioral development from birth through adolescence.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Fall, Spring

K-State Core
5 Social and Behavioral Sciences

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

PSYCH 290 - Innovative Studies in Psychology

Credits: 1-6

Topics selected in consultation with the instructor. To be used for interdisciplinary and innovative approaches to psychological topics.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State Core
5 Social and Behavioral Sciences

K-State 8
Social Sciences

PSYCH 310 - Controversial Issues in Psychology Research

Credits: 3

Covers selected topics across areas of physiological psychology, human development, cognitive and social psychology, and mental health disorders and their treatment. Students will explore in greater depth several controversial ideas and concepts in contemporary psychology.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Fall, Spring

K-State 8
Social Sciences

PSYCH 350 - Experimental Methods in Psychology

Credits: 3

Introduction to basic principles of research design and scientific methodology as applied to psychological sciences.

Repeat for Credit
N

Requisites
Prerequisite: Psych 110, Psych Major or Minor, Sophomore standing

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

PSYCH 351 - Experimental Methods Laboratory

Credits: 2

Application of experimental design and data analysis emphasized in the psychological literature, procedures, and reporting of research findings.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 350.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility

PSYCH 370 - Introduction to Behavioral Neuroscience

Credits: 3

A general overview of human brain function using case studies as a primary means for understanding the relationship between behavior and brain mechanisms.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Fall, Spring, Summer

K-State 8
Natural and Physical Sciences
Social Sciences

PSYCH 399 - Honors Seminar in Psychology

Credits: 3

Selected topics.

Note
Open to non-majors in the honors program.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State 8
Social Sciences

PSYCH 400 - Practicum in Teaching Psychology

Credits: 1-4

Supervised experience in presentation of psychological concepts in various classes. May be taken only with approval of the instructor of a psychology class under whose supervision the student will obtain this experience.

Repeat for Credit
Y

Requisites
Prerequisite: Consent of instructor; nine hours of psychology including PSYCH 110; junior standing.

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

PSYCH 425 - Judgment and Decision Making

Credits: 3

Covers the academic field of judgment and decision making, its major methods, results, and controversies. Examines the generality of experimental results across various domains including gambling, clinical prediction, perception of randomness, and legal and medical decision making. Focus on practical analytical skills for decision making that are useful in everyday life and work.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

PSYCH 430 - Forensic Psychology

Credits: 3

Survey of psychological principles and facts in areas such as perception, cognition, neuropsychology, social psychology, personality, and decision making, as they apply to forensic psychology. Topics include: polygraph (lie detection), eyewitness testimony, jury decision making, and profiling.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

PSYCH 450 - Applications of Memory

Credits: 3

Examination of the applications of memory in such diverse areas as courtroom testimony, expert performance, mnemonic procedures, and advertising. Relevant theories and research in each area are examined.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Spring

K-State 8
Social Sciences

PSYCH 460 - Cognitive Psychology

Credits: 3

A survey of the manner in which people extract and use relevant information from their environment as a basis for behavior. Topics may include memory storage and retrieval, attention, imagery, mnemonic devices, decision making, and other cognitive processes.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 350 (Psychology majors only).

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

PSYCH 465 - Cognitive Neuroscience

Credits: 3

The foundations of the neural bases of cognition and human behavior. A focus on neuroanatomy, hemispheric specialization, brain development, and higher-order cognitive functions, such as language, executive functions, attention, learning, and memory. Additional topics include cutting-edge brain imaging techniques (e.g., electroencephalography, functional MRI, and brain stimulation), lesion studies and examinations of brain injuries and other neurological disorders.

Repeat for Credit

N

Requisites
PSYCH 110 or instructor permission

Typically Offered
Fall, Spring, Summer

PSYCH 470 - Principles of Neuroscience

Credits: 3

A more in-depth course on brain-behavior interactions. Topics include: neuroanatomy, neuron transmission, sensory systems, emotions and stress, learning and memory, sleep, language and neural disorders.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 101 or BIOL 198, PSYCH 110.

Typically Offered
Fall, Spring, Summer

K-State 8
Natural and Physical Sciences
Social Sciences

PSYCH 475 - Principles of Learning

Credits: 3

Introduction to the principles of learning and their relevance to the understanding of the behavior of animals and humans.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 350 (Psychology majors only).

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PSYCH 480 - Fundamentals of Perception and Sensation

Credits: 3

Empirical and theoretical approaches to phenomena of sensation and perception.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 350 (Psychology majors only).

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PSYCH 490 - Honors Tutorial in Psychology

Credits: 1-3

Individual directed research and study of a topic in psychology, normally as a preliminary to writing a senior honors thesis.

Repeat for Credit
Y

Requisites
Prerequisite: Sophomore standing, membership in the honors program of the College of Arts and Sciences, and permission of instructor.

Typically Offered
Fall, Spring

K-State 8
Social Sciences

PSYCH 499 - Honors Project

Credits: 3

Open only to Arts & Sciences students who are active members of the University Honors Program.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

PSYCH 500 - Junior Seminar in Psychology

Credits: 1

Discussion of professional, research, and educational methods and objectives in psychology. Acquaints psychology majors with psychology as a profession, and with the various options available to them at various levels of training.

Note
Should be taken during first semester of junior year.

Repeat for Credit
N

Requisites
Prerequisite: Psych/Pre-Psych Major; Junior standing.

Typically Offered
Fall

PSYCH 505 - Introduction to Psychopathology

Credits: 3

An introductory study of behavior pathologies, with emphasis on their etiology and treatment.

Note
500-level psychology courses cannot be taken for graduate credit by students in psychology graduate programs.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing; PSYCH 110.

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

PSYCH 510 - Introduction to Behavior Modification

Credits: 3

Study of the principles of behavior modification and applications to human behavior. Emphasis on the learning principles and research in behavior modification.

Note
500-level psychology courses cannot be taken for graduate credit by students in psychology graduate programs.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 505.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PSYCH 515 - Introduction to Psychology Applied to Work

Credits: 3

Introduction to the basic theories and practices used by industrial and organizational psychologists to enhance individual and organizational effectiveness and well-being. Topics include personnel selection, training, performance management, job attitudes, work motivation, leadership, occupational health, and group processes at work.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

PSYCH 518 - Introduction to Health Psychology

Credits: 3

Psychosocial factors relevant to general health maintenance, recovery from disease or injury, and the achievement of health. Topics include stress-management techniques, personality characteristics associated with disease, cognitive-emotional effects of diet and exercise, and theories of pain and pain management. Concepts of prevention and behavioral medicine are also included.

Note
500-level psychology courses cannot be taken for graduate credit by students in psychology graduate programs.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

PSYCH 520 - Life Span Personality Development

Credits: 3

Theories and research in the development of personality from infancy through old age. Origins of personality in heredity and early experience, socialization practices, life crises and choices at various stages throughout life, and problems of aging.

Note
500-level psychology courses cannot be taken for graduate credit by students in psychology graduate programs.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110; sophomore standing.

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

PSYCH 530 - Psychology of Mass Communications

Credits: 3

The psychological effects of mass communication on behavior and thought, including advertising, stereotyping of women and minorities, effects on children, violence and sex in the media, effects of news on behavior, and the promotion of prosocial behavior through the media.

Note
500-level psychology courses cannot be taken for graduate credit by students in psychology graduate programs.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

PSYCH 535 - Social Psychology

Credits: 3

Psychology of the individual in society. Survey of empirical studies and theoretical models of social perception, attitudes, and social behavior (e.g., attribution, ethnic and gender prejudice, conformity). Relationship of these topics to personal and media influence, social mores, and social systems is also included.

Note
500-level psychology courses cannot be taken for graduate credit by students in psychology graduate programs.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Fall, Spring

K-State 8

Empirical and Quantitative Reasoning
Social Sciences

PSYCH 538 - Cross-Cultural Psychology

Credits: 3

Introduction to general theories and methods related to understanding the role of culture in human psychology. Focus is on how human psychology and behaviors both differ and are consistent across cultures, and sometimes within subcultures. Topics may include perception, cognitive processes, development, emotions and nonverbal behavior, personality and gender, social relationships, judgments of morality, and mental illness.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

PSYCH 540 - Psychology of Gender

Credits: 3

Investigation of psychological processes involved in gender with emphasis on development and major life events. Topics include physiology, early socialization into sex/gender roles, friendship, achievement, motivation, sexuality, romantic relationships, family development, work, and mental health.

Note
500-level psychology courses cannot be taken for graduate credit by students in psychology graduate programs.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

PSYCH 545 - Consumer Psychology

Credits: 3

Survey of psychological principles and facts in perception, learning, attitude formation, personality, etc., as they apply to behavior of consumers.

Note
500-level psychology courses cannot be taken for graduate credit by students in psychology graduate programs.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

PSYCH 550 - Advanced Psychological Research Methods

Credits: 4

Students will read primary literature, design research studies, employ the instruments and technology currently used in psychological research.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 350, STAT 225 or equivalent.
Corequisite: Majors only, Grade of B or better in PSYCH 350.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Ethical Reasoning and Responsibility

PSYCH 556 - Multicultural Psychology

Credits: 3

Introduce and familiarize students with the concept of multicultural psychology.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

PSYCH 557 - The Psychology of Ethnic Humor

Credits: 3

Reviews the structure, dynamics, and social functions of ethnic humor.

Note
500-level psychology courses cannot be taken for graduate credit by students in psychology graduate programs.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110 or SOCIO 211.

Typically Offered
Summer

K-State 8
Human Diversity within the U.S.
Social Sciences

PSYCH 559 - Psychological Testing

Credits: 3

Principles of psychological testing in industrial, clinical/counseling, and research environments. Topics include technical issues such as reliability, validity, norming, selection, placement, discrimination, etc. Also covers procedures for selecting, administering, and interpreting psychological tests.

Note
500-level psychology courses cannot be taken for graduate credit by students in psychology graduate programs.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Human Diversity within the U.S.

PSYCH 560 - Personnel Psychology

Credits: 3

An exploration of the industrial aspect of the industrial/organizational psychology discipline and provides an overview of human behaviors and psychological principles in personnel and selection contexts. Topics include recruiting, selecting, assessing, and training personnel; evaluating job performance; conducting job analyses; and implementing human capital strategies.

Note
500-level psychology courses cannot be taken for graduate credit by students in psychology graduate programs.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Fall, Summer

K-State 8
Social Sciences
Empirical and Quantitative Reasoning

PSYCH 563 - Gender Issues in the Workplace

Credits: 3

Psychological experiences of women and men in the world of work, with emphasis on traditional and nontraditional sex-role behavior, sexual discrimination and harassment,

and relevant socialization experiences.

Note
500-level psychology courses cannot be taken for graduate credit by students in psychology graduate programs.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Fall

K-State 8
Human Diversity within the U.S.
Social Sciences

PSYCH 564 - Psychology of the Workplace

Credits: 3

An exploration of organizational aspect of the industrial/organizational psychology discipline and provides coverage of relationships between individuals, groups, and organizations; how organizational factors contribute to individual behavior; and how individuals affect groups and organizational functioning. Emphasis on traditional topics such as work motivation, job satisfaction and other attitudes, leadership, communication, socialization, and organization and job design.

Note
500-level psychology courses cannot be taken for graduate credit by students in psychology graduate programs.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Spring

K-State 8
Social Sciences
Empirical and Quantitative Reasoning

PSYCH 565 - Occupational Health Psychology

Credits: 3

Survey of occupational health issues for juniors and seniors. Provides students with a background in psychologically related health issues occurring at work. The basic processes for identification, prevention, treatment, and well being of workers will be identified and explored.

Note
500-level psychology courses cannot be taken for graduate credit by students in psychology graduate programs.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110.

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

PSYCH 570 - Psychopharmacology

Credits: 3

Survey of basic principles of neural communication and pharmacology, the etiology and bio-behavioral bases of substance abuse, and chemical treatments of psychiatric disorders.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 202, PSYCH 470.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

PSYCH 575 - History of Psychology

Credits: 3

A survey of the people and intellectual movements that

shaped the emergence and growth of modern psychology. Topics covered include early philosophy and founders of psychology, Gestalt movement, Behaviorism, applied psychology, and clinical/counseling psychology.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110 or permission of instructor

Typically Offered
Spring

K-State 8
Historical Perspectives
Social Sciences

PSYCH 580 - Psychology of Sexual Behavior

Credits: 3

Study of psychological determinants and consequences of human sexual behavior; roles of personality, attitudinal and emotional factors will be emphasized.

Note
500-level psychology courses cannot be taken for graduate credit by students in psychology graduate programs.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110, sophomore standing.

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

PSYCH 584 - Group Psychotherapy

Credits: 3

Principles of psychoeducational training, strategies, and group norms. The group experience is practiced within the classroom, offering experience as both a group member and a group leader through role-playing and experiential exercises. Research and program planning are conducted to create and guide a psychoeducational group.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110

Typically Offered
Fall, Spring

PSYCH 585 - Basic Concepts in Clinical Psychology

Credits: 3

Critical analysis of the profession. Review of theoretical and empirical bases of such areas as intelligence and its measurement, personality and diagnosis, psychotherapy, and other modes of behavioral change.

Note
500-level psychology courses cannot be taken for graduate credit by students in psychology graduate programs.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110, PSYCH 505, and 3 additional hours of psychology.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Human Diversity within the U.S.

PSYCH 586 - Psychology Internship Readiness

Credits: 1

Exploration of the efficacy of decisions and actions within a professional internship. The topics of professional communication, dress, engagement, timeliness, and conflict resolution will prepare the student for an internship. Additionally, ethics, confidentiality, the duty to warn and self-care impacting the delivery of human services will be explained.

Note
This course must be taken in preparation for PSYCH 587.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110

Typically Offered
Fall, Spring, Summer

PSYCH 587 - Psychology Internship in Mental Health

Credits: 1-6

Supervised internship in an agency or institutional setting in the application of psychological techniques to individuals, groups, or organizations. Regular supervision emphasizes relationship between theory and application and the evaluation of outcomes.

Repeat for Credit
Y

Requisites
Prerequisite: PSYCH 585 and PSYCH 586 and consent of PSYCH 586 instructor

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility

PSYCH 590 - Interdisciplinary Topics in Psychology

Credits: 1-3

Topics selected in consultation with the instructor, covering interdisciplinary and innovative approaches to psychological topics.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PSYCH 595 - Behavioral Neuroscience Lab Skills

Credits: 3

Provides practical training in the foundations of Behavioral Neuroscience, which is the study of the biological basis of behavior in animals. Students will engage in theoretical work and practical experiments addressing behavioral and physiological processes as well as relationships between different biological and behavioral processes in various species.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110; PSYCH 370 or PSYCH 470

Typically Offered
Fall, Spring, Summer

PSYCH 596 - Cognitive Neuroscience Lab Skills

Credits: 3

Provides practical training in the foundations of Cognitive Neuroscience, which is the science of the human brain and behavior. Students will engage in theoretical work and practical experiments addressing behavioral, cognitive, and physiological processes as well as relationships between different biological and behavioral processes.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110; PSYCH 465

Typically Offered
Fall, Spring, Summer

PSYCH 598 - Research in Neuroscience

Credits: 0-18

Investigation of selected problems within the area of neuroscience.

Note
May be repeated. Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PSYCH 599 - Research in Psychology

Credits: 0-18

Investigation of selected problems.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

PSYCH 605 - Advanced Social Psychology

Credits: 3

An advanced look at some of the core topics in social psychology (e.g. the self, social influence, personal relationships, prejudice and discrimination, group processes) with a strong emphasis on applying the theory in these areas to current social problems and students' daily lives.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 350 (Psychology majors only).

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.

PSYCH 620 - Psychology of Personality

Credits: 3

Discussion of different approaches to the study of personality.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 350.

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

PSYCH 625 - Human Factors Psychology

Credits: 3

The application of psychological principles to the design and operation of machines, products, and systems, including human-computer interactions, automation, and training.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110; STAT 225-799

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

PSYCH 630 - Human Neuropsychology

Credits: 3

Study of brain-behavior relationships in humans. Brief review of human neuroanatomy followed by a major emphasis on brain function in learning, memory, language, and other cognitive behaviors. Also includes an examination of behavioral alterations following brain damage.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198 and PSYCH 110, or BIOL 101 and PSYCH 110.

Typically Offered
Spring

K-State 8
Natural and Physical Sciences
Social Sciences

PSYCH 650 - Psychology of Language

Credits: 3

Experimental study of language, including sentence comprehension and memory, language acquisition and development, speech perception, and effects of context, perception, reasoning, and linguistic structure on processing of language.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110 and junior standing.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Social Sciences

PSYCH 670 - Neural Mechanisms of Learning and Memory

Credits: 3

Survey of topics on the neurobiology of learning and memory including memory formation and maintenence, long term potentiation, and the role of various brain areas involved in memory such as the hippocampus and corticostriatal circuits. Discussions of relevant research articles and current topics in the neuroscience of learning and memory.

Repeat for Credit
N

Requisites
Prerequisites: PSYCH 110, BIOL 101 or BIOL 198

Typically Offered
Fall, Spring, Summer

PSYCH 715 - Psychology of Aging

Credits: 3

The psychological aspects of human aging. An analysis of the contributions of experimental, developmental, and personality-social psychology to the study of aging. The psychopathology of aging and psychological intervention strategies are also covered.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110 and junior standing.

Typically Offered
Spring

PSYCH 790 - Topics in Psychology

Credits: 1-18

Topics in Psychology

Repeat for Credit
Y

Requisites
Prerequisite: PSYCH 110 and consent of instructor.

Typically Offered
Fall, Spring, Summer

PSYCH 799 - Problems in Psychology

Credits: 1-18

Problems in Psychology

Repeat for Credit
Y

Requisites
Prerequisite: PSYCH 110 and consent of instructor.

Typically Offered
Fall, Spring, Summer

PSYCH 802 - Psychological Research Design and Analysis I

Credits: 3

Introduction to techniques of research planning and design, including critical evaluation of psychological research practices and selected research studies.

Repeat for Credit
N

Requisites
Prerequisite: STAT 225 or equivalent, and Psychology major or consent of instructor.

Typically Offered
Fall

PSYCH 803 - Physiological Psychology

Credits: 3

An advanced survey of basic technique, theory, and research in the field of behavioral neuroscience, including memory and learning, sensory and motor processes, motivation, and sexual behavior.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198 and PSYCH 110.

Typically Offered
Fall

PSYCH 804 - Industrial/Organizational Psychology

Credits: 3

Advanced survey of theory and research pertaining to human behavior in work organizations. Topics include selection, training, and evaluation of employees, job analysis and evaluation, work motivation and satisfaction, organizational structure and development, and working conditions.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 560 or PSYCH 564.

Typically Offered
Fall

PSYCH 805 - Psychological Research Design and Analysis II

Credits: 3

Extensive coverage of repeated measures designs, advanced experimental design, and the treatment of common psychological measures.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 802 with a grade of B or better.

Typically Offered
Spring

PSYCH 806 - Psychological Measurement

Credits: 3

The logic and methodology underlying the construction of psychological measuring instruments from the psychophysical estimate of threshold to the scaling of complex psychological variables.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 110 and STAT 225.

Typically Offered
Fall

PSYCH 807 - Research Methods in Occupational Health Psychology

Credits: 3

Reviews research methods used in social science with emphasis on occupational health psychology issues.

Repeat for Credit
N

Requisites
Prerequisite: STAT 225.

Typically Offered
Fall

PSYCH 808 - Applied Research Methods

Credits: 3

Examines research methods and analyses that are used in the applied psychology literature. Focuses on planning and conducting program evaluation.

Repeat for Credit
N

Requisites
Prerequisite: STAT 225.

Typically Offered
Spring-Even Years

PSYCH 809 - Applied Research Methods II

Credits: 3

Provides students with a detailed knowledge of human resource management research methods and analyses. Focuses on how to plan and conduct research in industrial/organizational psychology. Preparation for the M.S. practicum.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 808.

Typically Offered
Summer

PSYCH 810 - Learning

Credits: 3

In-depth study of empirical and theoretical research on basic learning principles and their effects on behavior.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 350 or equivalent.

Typically Offered
Spring

PSYCH 812 - Perception

Credits: 3

Various systematic approaches to perception, with emphasis on experimental and quantitative data. The role of perception in affectivity, motivation, and personality theory is stressed.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 350 or equivalent.

Typically Offered
Spring

PSYCH 814 - Advanced Cognitive Psychology

Credits: 3

Study of contemporary trends and research in cognition, including memory, language, problem solving, decision making, and human learning.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 350 or equivalent.

Typically Offered
Fall

PSYCH 816 - Psychology of Health

Credits: 3

Presents psychological research investigating illness and related dysfunction, as well as the promotion and maintenance of health. Provides students with the theoretical, empirical and clinical aspects of health psychology from a number of perspectives, discusses leading research and explores personal and practical implications of this information.

Repeat for Credit
N

Typically Offered
Fall

PSYCH 820 - Personality Theory and Research

Credits: 3

A comparative examination of contemporary theories of personality as well as research findings relevant to such theories.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 620 or equivalent.

Typically Offered
Spring

PSYCH 822 - Developmental Psychology

Credits: 3

Human psychological development throughout the lifespan. Examination of major theoretical systems relevant to Developmental Psychology.

Note
Consent of instructor.

Repeat for Credit
N

Typically Offered
Fall, Spring

PSYCH 825 - Judgmental Processes

Credits: 3

Examination of empirical findings and theoretical approaches to decision making and judgment with emphasis on higher cognitive processes.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 350 and PSYCH 802.

Typically Offered
Fall

PSYCH 830 - Pro-Seminar in Social Psychology

Credits: 3

Discussion of empirical findings and theoretical approaches to selected problem areas, such as attitude change, personality and social structure, person perception, small group processes.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 535.

Typically Offered
Fall

PSYCH 840 - Proseminar in Occupational Health Psychology

Credits: 3

Survey of occupational health issues for first or second year graduate students in health and related fields.

Repeat for Credit
N

Requisites
Prerequisite: STAT 225.

Typically Offered
Fall-Odd Years

PSYCH 841 - Seminar in Occupational Health Behaviors

Credits: 3

Focuses on organizational and individual prevention and coping behaviors relevant to work-related health problems.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 840.

Typically Offered
Fall-Even Years

PSYCH 842 - Practicum in Occupational Health Psychology

Credits: 3

Provides supervised practical experience with occupational health problems in various business, manufacturing and government settings. Students will prepare evaluative analyses of their assigned sites.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 840 and PSYCH 841.

Typically Offered
Spring-Odd Years

PSYCH 850 - Current Issues in Health Psychology

Credits: 1

Introduction to current issues in health psychology research.

Note
Consent of instructor.

Repeat for Credit
N

Typically Offered
Fall, Spring

PSYCH 851 - Practicum in Health Psych

Credits: 3

Independent health research designed in conjunction with major faculty advisor plus another faculty member to produce a journal submission and departmental presentation.

Note
Consent of instructor.

Repeat for Credit
N

Typically Offered
Fall, Spring

PSYCH 853 - Seminar in Psychopharmacology

Credits: 3

Surveys basic principles of neural communication and pharmacology, the etiology and bio-behavioral bases of substance abuse, and chemical treatment of psychiatric disorders.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring

PSYCH 860 - Practicum in Psychology

Credits: 1-18

Supervised practical experience in applied psychology.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PSYCH 870 - Practicum in Teaching Psychology

Credits: 1-4

Supervised experience regularly teaching a college psychology course.

Repeat for Credit
Y

Requisites

Prerequisite: Graduate standing in Department of Psychology.

Typically Offered
Fall, Spring

PSYCH 875 - Industrial Psychology: Personnel Training

Credits: 3

An examination of the training of personnel in an organization. Topics include: determination of an organization's training needs, selection and motivation of trainees, design and evaluation of training programs, and examination of several specific strategies for accomplishing the training function.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 560 or equivalent.

Typically Offered
Spring

PSYCH 876 - Industrial Psychology: Work Motivation

Credits: 3

An examination of empirical findings and theoretical approaches to understanding the relationship between worker motivation and job outcomes.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 564 or GENBA 520.

Typically Offered
Fall

PSYCH 877 - Industrial Psychology: Leadership

Credits: 3

Examination of current leadership theories, research, and practice in the work setting, focusing on situational approaches to leadership, leadership styles, and interactions between personal characteristics and organizational factors.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 564 or equivalent.

Typically Offered
Fall

PSYCH 878 - Industrial Psychology: Personnel Selection

Credits: 3

Examination of theoretical and practical issues in staffing industrial organizations, including recruitment, test validation, and other equal employment opportunity issues (test fairness, adverse impact, etc.).

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 560 or equivalent.

Typically Offered
Spring

PSYCH 879 - Organizational Psychology

Credits: 3

An examination of the individual's role in industrial organizations and the effects of organizational variables on the individual worker. Topics include organizational communication, employee socialization, psychological climates of organizations, psychological stress in organizations, group processes and employee performance, and organizational change.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 564.

Typically Offered
Fall

PSYCH 880 - Industrial Psychology: Performance Appraisal

Credits: 3

Examination of data sources, rating procedures, psychometric criteria for evaluating performance appraisal systems, and models/theories of the performance evaluation process.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 560 or equivalent.

Typically Offered
Spring

PSYCH 885 - History and Trends in Psychology

Credits: 3

A review of the contributions of individuals and intellectual movements to the development of modern psychology. A survey of theoretical systems currently of influence.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 350 or equivalent.

Typically Offered
Spring

PSYCH 899 - Master's Research in Psychology

Credits: 1-18

Master's Research in Psychology

Note
Consent of supervisory committee.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PSYCH 951 - Seminar in Physiological Psychology

Credits: 1-3

Selected topics in physiological psychology.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Other

PSYCH 952 - Seminar in Sensory Processes

Credits: 1-3

Selected topics in sensory psychology.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Other

PSYCH 953 - Seminar in Personality

Credits: 1-3

Intensive discussion of current problems of theoretical and empirical interest in the field of personality.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Other

PSYCH 954 - Seminar in Experimental Psychology

Credits: 1-18

Intensive discussion of a problem of current interest based on the class's study of the pertinent original literature.

Repeat for Credit
Y

Requisites
Prerequisite: PSYCH 810 or consent of instructor.

Typically Offered
Other

PSYCH 956 - Seminar in Psychological Measurement

Credits: 1-18

Intensive discussion of a problem of current interest, based on the class's study of the pertinent original literature.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Other

PSYCH 957 - Seminar in Cognitive Processes

Credits: 1-3

Selected topics in the study of human thinking and cognition.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Other

PSYCH 958 - Seminar in Mathematical Models of Behavior

Credits: 1-3

Selected topics in mathematical psychology, and applications of mathematical models to behavior.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Other

PSYCH 959 - Seminar in Social Psychology

Credits: 1-3

Emphasis on discussion of advanced topics of current interest in social psychology.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Other

PSYCH 960 - Seminar in Industrial Psychology

Credits: 3

Intensive examination of current empirical and theoretical issues in industrial and organizational psychology.

Repeat for Credit
Y

Requisites
Prerequisite: PSYCH 560 or equivalent.

Typically Offered
Fall

PSYCH 961 - Multivariate Analyses of Behavioral Data

Credits: 3

Methods of working with behavioral sciences multivariate data, including screen data for compliance with assumption and addressing violations of assumptions. Coverage of common multivariate analyses used, with specific

application to behavioral research content and topics.

Repeat for Credit
N

Requisites
Prerequisite: PSYCH 805 or consent of instructor.

Typically Offered
Fall

PSYCH 968 - Seminar in Professional Problems

Credits: 1-3

Intensive study and discussion of current professional problems in psychology.

Note
Consent of instructor.

Repeat for Credit
Y

Typically Offered
Other

PSYCH 990 - Internship in Psychology

Credits: 1-18

Internship in Psychology

Note
Consent of the supervisory committee.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

PSYCH 999 - PhD Research in Psychology

Credits: 1-18

PhD Research in Psychology

Note
Consent of the supervisory committee.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

RA 305 - Robotics Programming

Credits: 3

Concepts and practices related to programming robotic systems emphasizing the unique input/output (I/O) and concurrency requirements of robotics. Students learn about sensors, actuators, kinematics, control systems, teleoperated operation and autonomous algorithms. Students write programs that run on a robot as well as a drive station computer with network communication to a robot.

Repeat for Credit
N

Requisites
Prerequisite: ETB 310 or CYBR 247 or CMST 302.
Corequisite: MATH 150 or MATH 151.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning
Natural and Physical Sciences

RA 342 - Industrial Robotics Lab 2

Credits: 1

A project-based robotics and automation laboratory course focused on industrial robots emphasizing robot operation, programming, and integration with programmable logic controllers, machine vision systems, and other automation equipment.

Repeat for Credit
N

Requisites
Prerequisite: MET 240

Typically Offered
Fall

RA 343 - Industrial Robotics Lab 3

Credits: 1

A project-based robotics and automation laboratory course focused on industrial robots emphasizing robot operation, programming, and integration with programmable logic controllers, machine vision systems, and other automation equipment.

Repeat for Credit
N

Requisites
Prerequisite: MET 342

Typically Offered
Spring

RA 357 - Machine Vision

Credits: 3

Introduction to practical concepts and techniques for image processing and computer vision emphasizing the fundamental algorithms applicable to robotics, automation and unmanned aerial systems. Major topics covered include: MATLAB programming, image acquisition, geometric and intensity transformations, spatial and frequency domain filtering, image enhancement and restoration, morphological transformations, edge detection, segmentation, compression, feature extraction, and pattern recognition.

Repeat for Credit
N

Requisites
Prerequisite: ETB 310, or CMST 302, or CYBR 247.

Typically Offered
Spring

RA 444 - Integrated Robotics Studio

Credits: 0-2

Students complete self-directed projects that bring together and extend applications from previous and concurrent courses toward integrated robotics solutions. Expected topics of focus draw from industrial robot programming and implementation, programmable logic control, machine vision, human-machine interfaces, other automated systems equipment, data integration, and other aspects of contemporary and emerging automation. Collaborative projects with industry partners are encouraged.

Repeat for Credit
Y

Requisites
Prerequisite: MET 240

Typically Offered
Fall or Spring

RAS 212 - Introduction to Robot Operating System (ROS)

Credits: 3

A foundational understanding of the current ROS distribution and its application in robotics, preparing students for more advanced topics and practical robotics projects.

Repeat for Credit
N

Typically Offered
Fall

RAS 225 - Robot Power Systems

Credits: 3

A comprehensive study of power systems for robotics, focusing on the design, implementation, and management of energy sources for mobile and stationary robots.

Repeat for Credit
N

Requisites
Prerequisite: ECET 100

Typically Offered
Spring

RAS 260 - Path Planning and Navigation

Credits: 3

Gain hands-on experience controlling robots using various sensors while exploring advanced techniques for guiding mobile robots. Develop and implement algorithms for efficient path planning and navigation in various environments including both virtual and real-world

applications.

Repeat for Credit
N

Requisites
Prerequisite: RAS 212

Typically Offered
Fall

RAS 268 - Mobile Robotics Navigation Studio

Credits: 1

A practical, project-based course that focuses on the development and implementation of navigation systems for mobile robots.

Repeat for Credit
N

Requisites
Prerequisite: RAS 360

Typically Offered
Spring

RAS 320 - Sensors and Perception for Robotics

Credits: 3

Explore a wide range of sensors used in robotics along with the algorithms needed to interpret sensor data. Learn to select the right sensors for various applications, apply perception algorithms, and resolve sensor-related challenges.

Repeat for Credit
N

Requisites
Prerequisite: ECET 100

Typically Offered
Fall

RAS 335 - Digital Manufacturing

Credits: 3

Discover the cutting-edge world of digital manufacturing, where traditional fabrication methods merge with advanced technology to create precise and complex components. Explore the fundamentals and applications of key digital manufacturing tools.

Repeat for Credit
N

Requisites
Prerequisites: MET 117 and MET121.

Typically Offered
Fall

RAS 348 - Mobile Robotics Fabrication Studio

Credits: 1

A hands-on, project-based course where students design, build, and test mobile robot systems from the ground up.

Repeat for Credit
N

Requisites
RAS 335 and ECET 340

Typically Offered
Spring

RAS 358 - Industrial Inspection Systems

Credits: 2

Explore inspection systems used in industrial processes. Primary focus on vision inspection equipment including cameras, lenses, sensors, and lighting.

Repeat for Credit
N

Typically Offered
Fall

RAS 385 - Advanced Programmable Logic Controllers

Credits: 3

Study of the applications of programmable logic controllers (PLCs) in industrial environments. Topics include

hardware, wiring, configurations, programming, documentation, troubleshooting, and maintenance of PLC systems.

Note
Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: ECET 335 or MET 230 or AIT 335.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

RAS 387 - Data Acquisition and Monitoring

Credits: 2

An in-depth exploration of data acquisition systems and monitoring techniques, focusing on their application in modern engineering and robotics systems.

Repeat for Credit
N

Requisites
Prerequisite: MET 382

Typically Offered
Fall

RAS 415 - Robot Design and Kinematics

Credits: 3

Gain a broad understanding of robot systems, focusing on both physical and mathematical models. Design and analyze mobile robots, explore the dynamics of mobile platforms, and assess various mobility solutions to optimize robot designs for specific tasks.

Repeat for Credit
N

Requisites
Prerequisites: ETB 310 and MATH 220

Typically Offered
Spring

RAS 455 - Robot Embedded Systems

Credits: 3

Delve into the application of embedded systems in robotics. Develop skills in extending robot capabilities to resource-limited embedded platforms, exploring microcontroller architecture, real-time operating systems (RTOS), and embedded hardware.

Repeat for Credit
N

Requisites
Prerequisite: RAS 212 and ECET 354

Typically Offered
Fall

RAS 458 - Mobile Robotics Embedded Development Studio

Credits: 1

An advanced, hands-on course focused on the design and programming of embedded systems within mobile robot platforms.

Repeat for Credit
N

Requisites
Prerequisite: RAS 455

Typically Offered
Spring

RAS 480 - Robotics Capstone I

Credits: 1

Application of robotic principles and design methodology to solve a significant design problem in a team context. Includes determining customer requirements, exploring and choosing design alternatives, scheduling, and project management.

Repeat for Credit
N

Requisites
Senior-level standing

Typically Offered
Fall

RAS 481 - Robotics Capstone II

Credits: 2

A continuation of RAS 480 including the implementation, testing, and delivery of the proposed project.

Repeat for Credit
N

Requisites
Prerequisite: RAS 480

Typically Offered
Spring

RRES 200 - Topics in Recreation Resources

Credits: 1-3

Discussion of topics and activities of importance in recreation resources.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

RUSSN 101 - Russian I

Credits: 5

Introduction to the structure of modern Russian. Emphasis on the sounds of Russian, the use of the Cyrillic alphabet, and oral drills with added practice in the language laboratory.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

RUSSN 102 - Russian II

Credits: 5

Continuation of the study of Russian grammar and oral communication.

Repeat for Credit
N

Requisites
Prerequisite: RUSSN 101 or equivalent.

Typically Offered
Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

RUSSN 250 - Russian Culture and Civilization

Credits: 3

Russia's past and present in the light of principal ideologies with emphasis upon fine art, literature, music, religion, politics, and education. Equal time will be devoted to the Tsarist and Soviet periods.

Note
Knowledge of Russian is not required.

Repeat for Credit
N

Typically Offered
Other

Cross-listed
HIST 250

K-State Core
6 Arts and Humanities

K-State 8

Aesthetic Interpretation
Historical Perspectives

RUSSN 300 - Russian III

Credits: 4

Completion of the study of Russian grammar. Reading of selected prose on the intermediate level.

Repeat for Credit
N

Requisites
Prerequisite: RUSSN 102 or equivalent.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

RUSSN 301 - Russian IV

Credits: 3

Intensive review of Russian grammar. Exercises in reading selected modern Russian texts in the original.

Repeat for Credit
N

Requisites
Prerequisite: RUSSN 301 or equivalent.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

RUSSN 398 - Intermediate Studies in Russian

Credits: 1-18

Offered only to participants in study abroad programs. Prior consultation for approval is expected.

Repeat for Credit
Y

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

RUSSN 504 - Russian Literature in Translation: The Nineteenth Century

Credits: 3

Survey of principal writers of Tsarist Russia with emphasis upon Turgenev, Dostoevsky, Tolstoy, and Chekhov.

Note
Courses taught in English.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Historical Perspectives

RUSSN 508 - Russian Literature in Translation: The Soviet Period

Credits: 3

The development of Russian literature since the Revolution, with emphasis upon Mayakovsky, Sholokov, Pasternak, and Solzhenitsyn.

Note
Courses taught in English.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Historical Perspectives

RUSSN 551 - Russian V

Credits: 3

Reading of Russian short stories of the nineteenth and twentieth centuries, including works by Pushkin, Lermontov, Dostoevsky, and Chekhov.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

RUSSN 553 - Russian Conversation and Composition

Credits: 3

Discussion in Russian. Extensive practice in writing Russian compositions.

Repeat for Credit
N

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

RUSSN 559 - Special Studies in Russian

Credits: 1-18

Special Studies in Russian

Note
Consent of department head and instructor involved.

Repeat for Credit
Y

Typically Offered
Other

K-State 8
Aesthetic Interpretation

SALES 300 - Fundamentals of Professional Selling

Credits: 3

Focuses on interpersonal communications between buyers and sellers, both oral and written. The mechanics and intricacies of the sales process will be explored in detail. Sales skills will be further developed via sales role plays.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

SALES 326 - International Sales Experience

Credits: 3

Embark on an immersive education abroad experience that takes learning beyond the classroom and into the heart of global communities. This course offers students the unique opportunity to explore a foreign country through academic study, cultural engagement, and hands-on experiences.

Repeat for Credit
N

Requisites
Prerequisite: SALES 300

Typically Offered
On sufficient demand

SALES 450 - Sales Technology

Credits: 3

This course reviews sales technology and examines the application of sales technologies to the sales process. Course projects will include role plays, along with the active use of technology systems. Content will include managing leads, prospects, and the sales pipeline using technology.

Repeat for Credit
N

Requisites

Prerequisite: SALES 300, must be admitted to Professional Strategic Selling major (BPSS) or certificate (CPSS).

Typically Offered
Fall, Spring

SALES 451 - Sales Force Leadership

Credits: 3

Management of the sales force in non-retail settings including coaching, supervising, providing feedback, training, and other sales management frameworks and techniques.

Repeat for Credit
N

Requisites
Prerequisite: SALES 300, must be admitted to Professional Strategic Selling major (BPSS) or certificate (CPSS)..

Typically Offered
Fall, Spring

K-State 8
Social Sciences

SALES 452 - Customer Relationship Management

Credits: 3

This course introduces students to the strategies, methodology and technology used to manage customer relationships; and support and enhance the sales and marketing functions.

Repeat for Credit
N

Requisites
Prerequisite: SALES 300

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

SALES 453 - Advanced Selling

Credits: 3

Students apply their professional selling skills through advanced instruction and skill development. Course projects include role plays, along with real-time use of CRM systems, as part of a live sales experience. Content includes prospecting, sales pipeline management, effective sales conversations, and adaptive selling in a real-world sales context.

Repeat for Credit
N

Requisites
Prerequisite: SALES 450, must be admitted to Professional Strategic Selling major (BPSS) or certificate (CPSS)..

Typically Offered
Spring

K-State 8
Social Sciences

SALES 454 - Sales Practicum

Credits: 3

The student will work as a sales intern in a business environment as a means to gain applied sales experience. A report detailing duties performed and tasks accomplished is required at the end of the internship period, along with an evaluation by the supervisor and a self-assessment. Additionally, the student will complete required reading and assignments related to the reading.

Note
Restricted to students who have completed at least their sophomore year.
Need to have been accepted into the Certificate or Major in Professional Strategic Selling Program.
Cannot be taken concurrently with another internship class.

Repeat for Credit
N

Requisites
Prerequisite: SALES 300, must be accepted into the Certificate or Major in Professional Strategic Selling Program, must be sophomore or higher level.

Typically Offered
Summer

SALES 455 - Sales Negotiation

Credits: 3

Students learn the fundamentals of negotation, and how those fundamentals are used during the sales process, with the goal of improving understanding of negotiation theory and practical application. Students are expected to participate in role playing excercises.

Repeat for Credit
N

Typically Offered
Spring

SALES 456 - Key Account Management

Credits: 3

Students are introduced to the complex strategies and tactics used in identifying and managing key customer accounts, including those with large multi-national footprints.

Repeat for Credit
N

Requisites
Prerequisite: SALES 300.

Typically Offered
Fall

SALES 457 - Cooperation Selling

Credits: 3

Students learn how to successfully synchronize their selling process with the decision maker's buying process in order to completely satisfy customers and generage more sales. Students are expected to participate in role playing exercises.

Repeat for Credit
N

Requisites
Prerequisite: SALES 300.

Typically Offered
Fall

SALES 496 - Special Topics in Sales

Credits: 3

Discussion and analysis of current and emerging issues in sales, including topics related to new sales models, new technologies, and the practice of sales.

Repeat for Credit
Y

Requisites
Prerequisite: SALES 300

Typically Offered
On sufficient demand

SALES 498 - Independent Study in Sales

Credits: 0-3

Independent Study in sales.

Repeat for Credit
Y

Requisites
Prerequisite: SALES 300, must be admitted to Professional Strategic Selling major (BPSS) or certificate (CPSS)..

Typically Offered
On sufficient demand

SALES 891 - Special Topics in Sales

Credits: 3

Investigation and discussion of a selected topic or group of topics in sales.

Repeat for Credit
Y

Typically Offered
Fall, Spring

SENS 701 - Sensory Analysis

Credits: 3

Sensory analysis of appearance, texture, aroma, flavor; physiology of sensory receptors; laboratory and consumer panels; and interpretation of data.

Note
Two hour recitation and three to six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: One course in statistics required.

Typically Offered
Fall-Odd Years

SENS 711 - Pet Food Sensory Analysis

Credits: 2

Sensory analysis of food and other products for non-food animals (e.e. dogs and cats with mention of other species) with an emphasis on methods (descriptive, discrimination, consumer, sensory-related instrumental) used in the laboratory and in the field.

Note
Two hours of lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: STAT 225 or STAT 702 or STAT 703 or equivalent.

Typically Offered
Spring-Odd Years

SENS 833 - Descriptive Sensory Analysis: Methods

Credits: 1

Specification and application of descriptive sensory analysis methods for use in product development, research, and quality control. Practical experiences in conducting these tests.

Repeat for Credit
N

Requisites
Prerequisite: SENS 701

Typically Offered
Spring

SENS 834 - Descriptive Sensory Analysis: Food and Fragrance

Credits: 1

Identification and use of descriptive sensory attributes as they relate to food and fragrance for product development, research, and quality control. Practical experiences in identifying, describing, and application of food and fragrance attributes.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 833 or co-requisite.

Typically Offered
Spring

SENS 835 - Descriptive Sensory Analysis: Non-Food

Credits: 1

Identification and use of descriptive sensory methods and attributes as they relate to non-food product development, research, and quality control. Practical experiences and case studies in identifying, describing, and application methods and attributes for research using products such as textiles, cosmetics, and personal goods.

Repeat for Credit
N

Requisites
Prerequisite: FNDH 833 or co-requisite.

Typically Offered
Spring

SENS 836 - Descriptive Sensory Analysis: Panel Training

Credits: 1

Techniques for training and evaluating sensory descriptive

panels for use in product development, research, and quality control.

Repeat for Credit
N

Requisites
Co-requisite: SENS 833.

Typically Offered
Spring

SENS 837 - Descriptive Sensory Analysis: Rapid Methods

Credits: 1

Use and understanding of rapid sensory techniques to descriptively evaluate products.

Repeat for Credit
N

Requisites
Prerequisite: SENS 701 OR SENS 833

Typically Offered
Summer-Odd Years

SENS 841 - Consumer Research - Fundamentals

Credits: 1

Fundamentals of consumer research in terms of organizing and executing studies. Planning studies, selecting products, recruiting target consumers, and organizing study execution are included.

Repeat for Credit
N

Requisites
Prerequisite: Needs one course in Statistics

Typically Offered
Fall

SENS 843 - Consumer Research - Qualitative

Credits: 1

This course provides a deep dive into qualitative research, including the design, application, execution, and reporting. This course will educate the student on the appropriate tools for qualitative data collection based on the objective, with a particular emphasis on interviews and focus groups.

Repeat for Credit
N

Requisites
Prerequisites-SENS 701 OR SENS 841

Typically Offered
Fall

SENS 845 - Consumer Research – Observational and Behavioral

Credits: 1

Study of observational and behavioral research methods as they are applied to consumer product research, including ethics and techniques for such research. Methods and analysis for both qualitative and quantitative methods for such data collection will be covered.

Repeat for Credit
N

Requisites
Prerequisite: SENS 701 OR SENS 841

Typically Offered
Spring

SENS 846 - Consumer Research – International and Special Populations

Credits: 1

Study of consumer product research with international and special populations including children and other special populations.

Repeat for Credit
N

Requisites
Prerequisite: SENS 701 OR SENS 841

Typically Offered
Spring

SENS 847 - Consumer Research – Attitudinal

Credits: 1

Study of attitudinal research methods, including questionnaires and facial recognition, for product understanding. Techniques including emotion, mood, and psychographic research methods will be covered. Methods for consumer segmentation beyond traditional demographical segmentation will be discussed.

Repeat for Credit
N

Requisites
Prerequisite: SENS 701 OR SENS 841

Typically Offered
Spring

SENS 848 - Consumer Research – Quantitative

Credits: 1

Methods and issues associated with measuring consumer responses to products including preference testing, preference ranking, acceptance testing, hedonic scales, and consumption testing.

Repeat for Credit
N

Requisites
Prerequisite: SENS 701 or SENS 841.

Typically Offered
Fall

SENS 851 - Sensory Analysis Applications of Statistics

Credits: 2

Application of statistics to sensory data. Emphasis on appropriate analyses, software use, interpretation of data, and reporting.

Repeat for Credit
Y

Requisites
Prerequisite: Prerequisite: SENS 701 AND (STAT 730 or STAT 720 or STAT 722)

Typically Offered
Fall-Even Years

SENS 852 - Practicum in Sensory Analysis

Credits: 3

Application of statistics to sensory data. Emphasis on appropriate analyses, software use, interpretation of data, and reporting.

Note
Consent of School

Repeat for Credit
Y

Requisites
Prerequisite: SENS 841 or SENS 833

Typically Offered
Fall, Spring, Summer

SENS 853 - International Research Experience

Credits: 2

International experience in conducting research. Development of strong collaboration and pre-planning, actual conduct, and reporting of results. International travel is required for this course. One hour of lecture per week and 1-2 week in-country practicum.

Note
Consent of School Required.

Repeat for Credit
N

Requisites
Prerequisite: SENS 701 AND (SENS 833 OR SENS 841)

Typically Offered
On sufficient demand

SENS 856 - Sensory and Instrumental Volatile Analysis and their Relationship

Credits: 2

Use and relationship of methods for measuring and relating volatiles including sensory and instrumental methods such as gas chromatography mass-spectrometry (GC-MS) and gas chromatography olfactometry (GC-O).

Repeat for Credit
N

Requisites
Prerequisite: SENS 701.

Typically Offered
On sufficient demand

SENS 881 - Seminar in Sensory Analysis and Consumer Behavior

Credits: 1

Student experiences for professional development including developing and delivering a presentation and navigating the workplace.

Repeat for Credit
Y

Requisites
Prerequisite: SENS 701

Typically Offered
Spring

SENS 958 - Critical Experiences in Industry Research

Credits: 3-6

Practicum in professional communication in the disciplines including proposal writing, networking and collaborating with professional colleagues, and developing and/or presenting project results.

Note
Student may re-enroll to accumulate additional credit. Consent of school.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

SOCIO 211 - Introduction to Sociology

Credits: 3

Development, structure, and functioning of human groups; social and cultural patterns; and the principal social processes.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Human Diversity within the U.S.
Social Sciences

SOCIO 214 - Introduction to Sociology, Honors

Credits: 4

Development, structure, and functioning of human groups; societal and cultural patterns; the nature of sociological inquiry. Lecture, discussion, and independent study.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
5 Social and Behavioral Sciences

K-State 8
Human Diversity within the U.S.
Social Sciences

SOCIO 260 - Social Problems

Credits: 3

Analysis of social problems such as drug use, crime, juvenile delinquency, mental illness, unemployment, and family instability.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Fall, Spring, Summer

K-State Core
5 Social and Behavioral Sciences

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

SOCIO 301 - Topics in Sociology

Credits: 1-18

Supervised independent and/or interdisciplinary study projects.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 211 and consent of instructor.

Typically Offered
Fall, Spring

SOCIO 363 - Global Problems

Credits: 3

Analysis of globalization and contemporary social problems around the world. Emphasis on non-Western, low-income countries. Examines food and hunger, global warming, debt crisis, democratization, ethnic conflict, and structures of economic and political inequality.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Social Sciences

SOCIO 399 - Honors Seminar in Sociology

Credits: 1-3

Readings and discussion of selected topics.

Note
Open to non-majors in the honors program.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211

Typically Offered
On sufficient demand

SOCIO 423 - Methods of Social Research I

Credits: 4

Treatment of the logic and procedures involved in the formulation of a research problem and the difficulties encountered in conducting research. Examines problems of explanation and prediction, the process of inquiry, elements of the scientific method, the design of research, and analysis in the social sciences.

Note
To include 1 credit hour of lab and field research experience.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211, STAT 225.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

SOCIO 431 - Comparative Social Theories

Credits: 3

A systematic survey of major theoretical approaches in sociology. The works of Marx, Weber, Durkheim, and other classical theorists are examined, along with selections

from major contemporary perspectives such as functionalism, symbolic interactionism, structuralism, critical theory, and feminist theory. Current debates over structure versus agency, postmodernism, and other controversies are considered.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives
Social Sciences

SOCIO 435 - Sport and Contemporary Society

Credits: 3

An analysis of sport and its role in contemporary society. Course creates a greater awareness of the social significance of sport in society and fosters the capacity to use critical thinking in the analysis of significant sport issues.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Spring

Cross-listed
KIN 435

SOCIO 440 - Social Organization

Credits: 3

Principles and processes of the organization and structure of human societies. Examines how people create social institutions and how these organizations and structures shape human relations and experience. Analysis of capitalism and other forms of social organization.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Spring

SOCIO 450 - Introduction to Social Interaction

Credits: 3

A survey of theories of social interaction and social psychology with special attention to research on principles of interpersonal relations in social situations, group formation, maintenance, and change.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Fall

K-State 8
Human Diversity within the U.S.
Social Sciences

SOCIO 499 - Honors Project

Credits: 3

Open only to Arts & Sciences students who are active members of the University Honors Program.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

SOCIO 500 - Sociological Perspectives on Contemporary Issues

Credits: 1-3

Analysis of a selected topic of contemporary interest. Topics vary from semester to semester and might include: impact of public policy on rural life; white collar crime;

student-athlete education; social change in the Third World.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

SOCIO 501 - Proficiency Development

Credits: 1-3

Integrative review of sociological concepts and skills under faculty supervision.

Note
For single students or groups of students. Not applicable to major field requirements. For undergraduate credit only. Consent of instructor and superior performance in relevant course.

Repeat for Credit
N

Typically Offered
On sufficient demand

SOCIO 504 - Political Sociology

Credits: 3

An introduction to the principles of political sociology. Processes of political socialization, participation within and outside established organizational channels, recruitment of elites, communication and influence, power, decision making, and policy outputs. Data are presented from a cross-national perspective.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211, POLSC 110.

Typically Offered
Spring-Even Years

Cross-listed
POLSC 504

SOCIO 505 - South Asian Civilizations

Credits: 3

Interdisciplinary survey of the development of civilizations in India, Pakistan, Sri Lanka, Bangladesh, Nepal, Bhutan, and Afghanistan, including geography, philosophy, social, economic, political institutions, and historical movements.

Repeat for Credit
N

Requisites
Prerequisite: 3 hours of social science or junior standing.

Typically Offered
Fall-Even Years

Cross-listed
GEOG 505, HIST 505, POLSC 505, ECON 505, ANTH 505

K-State 8
Global Issues and Perspectives
Social Sciences

SOCIO 507 - International Development and Social Change

Credits: 3

A survey of the socioeconomic and political dimensions of international development, with attention focused on developing world contexts. Special attention is given to understanding post-war development trends, including the debt crisis, globalization and neoliberalism, and movements for social change, such as the anti-globalization and the fair trade movements.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211 or consent of instructor.

Typically Offered
Other

K-State 8

Ethical Reasoning and Responsibility
Global Issues and Perspectives

SOCIO 510 - Social Welfare as a Social Institution

Credits: 3

The development and present status of social welfare in meeting changing human needs and the requirements in other parts of our social system; the analysis of present-day philosophy and functions of social welfare.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Fall, Spring

K-State 8
Historical Perspectives
Human Diversity within the U.S.

SOCIO 522 - Community Engaged Research and Evaluation

Credits: 3-6

Introduction to partnering with community organizations and
applying observation, surveys, interviews, governmental resources, secondary data identification and analysis, and basic program and policy evaluation. Students
practice notetaking, report writing, and ethical standards that protect the well-being of study participants.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 423.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning
Social Sciences

SOCIO 531 - Urban Sociology

Credits: 3

Growth, development, and structure of the city as determined by geographical, ecological, and social factors; relation of rural and urban communities; problems of the city and various approaches to their solution.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Spring

K-State 8
Historical Perspectives
Social Sciences

SOCIO 532 - Our Communities, Our Futures

Credits: 3

Combines real-world experience and sociological knowledge about community organization. Explores organizational ties, social interaction, social capital, and leadership in communities.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

SOCIO 533 - Society, Food, and Agriculture

Credits: 3

Examines the relationships between agriculture, food, and society. Topics to be examined include the changing structure of agriculture, food system resilience, the globalization of food and agriculture, issues of distribution, access, and food security, and related social movements. Examines implications for both rural and urban societies in the US and around the world.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

SOCIO 535 - Population Dynamics

Credits: 3

World population trends and their implications for economic development, public policy, and social and cultural change. The interaction of fertility, mortality, and migration with the size, distribution, and structure of populations in nations and world regions.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Spring-Odd Years

K-State 8
Global Issues and Perspectives
Social Sciences

SOCIO 536 - Society and Natural Resources

Credits: 3

The interrelations among human societies, social institutions, and the biophysical environment. Emphasis on the reciprocal links among technological change, economic structure, and the ecological basis of human societies.

Repeat for Credit
N

Typically Offered
Fall, Spring

SOCIO 537 - Sociology of Emotions

Credits: 3

Examines different sociological perspectives on the role of emotions in social life, from the level of self and identity, through social interaction, to the macro level of social structure, social order, and social change. Emotions as both social products, and as factors constitutive of social life.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Aesthetic Interpretation

SOCIO 538 - Sociology of Culture

Credits: 3

Introduction to the concept of "culture" and the role of culture and collective meaning in social life and social change. How we make sense of the world, and how this affects our responses and actions in the world. Relationship between cultural change and social change.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Social Sciences

SOCIO 540 - Sexuality and Society

Credits: 3

Overview of key concepts related to sexuality studies and examination of social and cultural constructions of sexuality. Discussion of issues of power, inequalities, and social control.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Summer

SOCIO 541 - Wealth, Power, and Privilege

Credits: 3

Analysis of social inequality, particularly within the contemporary United States. Competing explanations for unequal wealth, status, power, etc. Emphasis on explanations related to class, occupational structure, gender, and ethnicity.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

SOCIO 544 - Social Gerontology: An Introduction to the Sociology of Aging

Credits: 3

Analysis of the phenomenon of human aging in its individual, social, and cultural aspects with special attention to the problems of aging populations in Western societies.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Spring

SOCIO 545 - The Sociology of Women

Credits: 3

Examines patterns of gender in contemporary society and corresponding experiences of women. The course emphasizes both interactional and structural approaches and provides an overview of theoretical work in the field. Particular attention is paid to how gender interacts with ethnicity, class, and sexuality.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Other

K-State 8
Human Diversity within the U.S.
Social Sciences

SOCIO 546 - Bureaucracy in Modern Societies

Credits: 3

The nature and types of bureaucratic organizations in modern societies. Selected aspects of their internal structure, such as peer group and hierarchical relations in organizations, processes of communication, management, and impersonal mechanisms of control.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Fall

K-State 8
Historical Perspectives
Social Sciences

SOCIO 565 - Program and Policy Formulation and Analysis

Credits: 3

Examination of policies and programs developed to cope with various social problems. Emphasis will be on analysis of existing programs and policies and the formulation of alternative policies. Attention will be given to policy change through legislative action.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 510.

Typically Offered
Fall, Spring

Cross-listed
SOCWK 565

SOCIO 567 - Pre-Internship Orientation

Credits: 1

This course prepares students for internship placements. Resumes are written, interview procedures discussed, agency interviews conducted, internships selected, and agency orientation completed.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 520.

Typically Offered
Fall, Spring

K-State 8
Social Sciences

SOCIO 568 - Criminology and Sociology Internship

Credits: 6-9

Supervised field experience in various agencies within the criminal justice systems or other public or private organizations in areas involving applied sociological analysis or practice. Criminology majors wishing to pursue careers in the field of criminal justice are strongly encouraged to complete an internship. General sociology students may take this course under the direction of a faculty member who agrees to serve as their internship advisor. Does not fulfill sociology or criminology elective requirements.

Note
Must be taken concurrent with SOCIO 569.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 567.

Typically Offered
Fall, Spring, Summer

K-State 8
Social Sciences

SOCIO 569 - Criminology and Sociology Professional Seminar

Credits: 3

Integrates field experience and everyday practices with relevant bodies of sociological and criminological theory and research. Must be taken concurrent with SOCIO 568.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 567.

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

SOCIO 570 - Race and Ethnic Relations in the USA

Credits: 3

This survey of racial and ethnic relations focuses on discrimination and conflict now as well as on background factors of the past to enlarge understanding of dominant and minority groups.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

SOCIO 599 - Senior Thesis in Sociology

Credits: 3-6

Independent research in sociology. Students conduct original research and produce a senior thesis in sociology.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 423; SOCIO 431, and instructor consent.

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

SOCIO 618 - Religion in Culture

Credits: 3

The nature of religion and its manifestations in different cultural systems.

Repeat for Credit
N

Requisites
Prerequisite: ANTH 200 or SOCIO 211.

Typically Offered
Spring-Odd Years

Cross-listed
ANTH 618

K-State 8
Ethical Reasoning and Responsibility
Global Issues and Perspectives

SOCIO 633 - Gender, Power, and Development

Credits: 3

Examination of various models of development and their impact on roles of women and men in various cultures. Emphasis upon Africa, Asia, and Latin America. Comparisons of public, service, and economic sectors, including agriculture, marketing, and industry. Examination of policy issues.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211 or ANTH 200 and 3 additional hours in sociology or cultural anthropology.

Typically Offered
On sufficient demand

Cross-listed
ANTH 633

K-State 8
Global Issues and Perspectives
Social Sciences

SOCIO 635 - Sociology of Human Trafficking

Credits: 3

The course explores a range of topics related to human trafficking, anti-trafficking institutions, and legislation in the context of globalization. Analysis of contemporary forms of slavery-like practices (forced labor, child trafficking, domestic servitude, and others), with primary focus on sex trafficking of women.

Repeat for Credit
N

Typically Offered
Summer

SOCIO 640 - Sociology of the Family

Credits: 3

Origin and development of marriage customs and systems of family organization; the preparation for family life under present conditions.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Fall

K-State 8

Human Diversity within the U.S.
Social Sciences

SOCIO 643 - Sociology of Religion

Credits: 3

The role of religion as an institution in American society. An assessment of the functions of religion and an exploration of contemporary trends and movements, including information on traditional denominations and emerging sects and cults.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Fall

SOCIO 645 - Post-Communist Societies

Credits: 3

Analysis of divergent scenarios of post-communist social transformation, primarily in the countries of Eastern Europe and Eurasia. Discussion of the history of communist societies, changing social institutions, and social stratification in the post-communist contexts. Examines post-communist space and mobility, class and gender inequalities, political democratization, youth culture and prospects, crime, global connections of the transformation, human rights and civil society, security and conflict, religion and ethnicity, and the changing family.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211.

Typically Offered
Spring

SOCIO 647 - Sociology of Work

Credits: 3

Analysis of the world of work, both paid and unpaid. Examines changes that affect the organization of work and the distribution of income, and examines how change alters class, gender, and ethnic relations.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211 and junior standing.

Typically Offered
Other

K-State 8
Historical Perspectives
Human Diversity within the U.S.

SOCIO 670 - Diversity and Social Interaction in the Workplace

Credits: 3

Examines changes in the world of work; examines various contexts of work, such as business, the professions, education, and home; analyzes the social organization of work, both in terms of formal arrangements, such as authority and hierarchy, and in terms of informal structure, such as gender, race, class, and other categories of social difference; provides hands-on experience in dealing with interpersonal relations, management styles, communication, diversity issues, and conflict and stress management.

Repeat for Credit
N

Requisites
Prerequisite: 6 hours of social science.

Typically Offered
Intersession

K-State 8
Human Diversity within the U.S.
Social Sciences

SOCIO 701 - Problems in Sociology

Credits: 1-18

Problems in Sociology

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 211 and junior standing.

Typically Offered
Fall, Spring, Summer

SOCIO 738 - International Migration

Credits: 3

A comprehensive examination of international migration dynamics with a focus on immigration to the United States. Introduces current theoretical debate on migration and examines global migration trends, integration and community formation of immigrants, construction of immigration policies, and impacts on United States society.

Repeat for Credit
N

Typically Offered
Other

SOCIO 742 - Society and Change in South Asia

Credits: 3

Examines recent studies of family and community, population, mobility, urbanization, and modernization in the India-Pakistan region, with focus on social change.

Repeat for Credit
N

Requisites
Prerequisite: SOCIO 211 or ANTH 200 and either a 500-level course in South Asian studies or one in social change and development.

Typically Offered
Spring-Even Years

SOCIO 801 - Introductory Proseminar

Credits: 1

Discussions designed to introduce entering graduate students to the discipline of sociology as a profession and to the members of the sociology graduate faculty.

Note
Required during the first fall semester on campus.

Repeat for Credit
Y

Requisites
Prerequisite: Admission to the graduate program in sociology.

Typically Offered
Fall

SOCIO 802 - Teaching Proseminar

Credits: 1

Designed to aid new graduate teaching assistants. Includes such topics as planning a sociology course, handling sensitive issues, leading discussions in large and small classes, use of audiovisuals, special projects, classroom deportment, designing and grading examinations.

Note
Required of first-semester GTAs.

Repeat for Credit
Y

Requisites
Prerequisite: Interest in teaching sociology and enrollment in the sociology graduate program.

Typically Offered
Fall

SOCIO 809 - Classical Social Theory

Credits: 3

Intensive seminar in classical sociological theory. Examines the theoretical frameworks and methodologies of Karl Marx, Max Weber, and Emile Durkheim, along with selections from the works of other major classical theorists. Analysis of primary texts will be emphasized.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 511 or equivalent.

Typically Offered
Fall

SOCIO 810 - Contemporary Sociological Theory

Credits: 3

Comparative analysis of contemporary schools of sociological thought showing their development, current status, and possible future trends. Emphasis on structural functionalism, Marxism and neo-Marxism, symbolic interactionism, phenomenology and ethnomethodology, and exchange theory. A working knowledge of classical sociological theory is assumed.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 710 or equivalent.

Typically Offered
Spring

SOCIO 822 - Introduction to Methods of Social Analysis

Credits: 3

Provides an introduction to the methods and techniques utilized in sociological research. Includes such topics as basic collecting and analyzing sociological data.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 702 or equivalent.

Typically Offered
Fall

SOCIO 823 - Intermediate Methods of Social Research

Credits: 3

Current sociological research techniques, strategies of research design, construction of research instruments, logic of sociological inquiry, conceptualization, problem formation, and preparation of research proposals.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Spring

SOCIO 824 - Qualitative Methodology

Credits: 3

Collection, analysis, and presentation of sociological data using such methods as participant observation, ethnomethodology, community analysis, documentary research and historiography, case study, and life history. Emphasis upon formulation of problems and the execution of research.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
On sufficient demand

SOCIO 825 - Quantitative Methods

Credits: 3

Provides instruction for advanced techniques in the quantitative analysis of sociological data. Includes regression analysis and estimation of models with categorical data. A working knowledge of basic statistical concepts is assumed.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 702 or equivalent.

Typically Offered
Fall

SOCIO 830 - Social Demography

Credits: 3

The study of human population, including the social, economic, political, ecological, and cultural determinants and consequences of changes in fertility, mortality, and migration.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall

SOCIO 831 - Sociology of Agriculture

Credits: 3

Provides a survey of the subfield of sociology of agriculture, including an examination of its roots, growth and current theoretical and substantive directions. Explores the linkages between agriculture, commodity systems, food and the environment.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Spring-Odd Years

SOCIO 832 - Sociology of Community

Credits: 3

A survey of theoretical perspectives and current research on the sociology of community in the U.S. and other countries. Examples of issues covered include community growth and decline, social inequality, community power and politics, social implications of community economic change, urbanization, and the global context of local change.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Spring-Odd Years

SOCIO 833 - Gender Differentiation and Inequality

Credits: 3

Offers an analysis of the social construction and reproduction of gender identities. Focuses on current feminist theory and research on the links between gender identities and gender inequality.

Repeat for Credit
Y

Typically Offered
Spring-Even Years

SOCIO 835 - Environment and Society

Credits: 3

The interrelationships among population, technology, environment, and social organization. An examination of the origins and development of human ecology in sociology, and recent attempts to redefine the area. Special emphasis on current theoretical and research efforts focusing on the history and uses of ecological ideas.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Spring-Even Years

SOCIO 838 - Sociology of Culture

Credits: 3

Intensive reading and discussion of classical and contemporary works relating to the study of culture, all those things that render the world around us comprehensible, communicable, and meaningful. The Focus on collective meaning, the process through which meaning is generated, and the roles collective meanings play in social life.

Repeat for Credit
N

Typically Offered
Fall

SOCIO 840 - Comparative Social Systems

Credits: 3

Compares social systems in different regions of the world. Examines models of comparative and historical sociology. Provides students with a background for conducting and evaluating comparative research. Treats such issues as socioeconomic development, group relations, and age and sex roles from a cross-cultural perspective.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall-Even Years

SOCIO 841 - Social Stratification

Credits: 3

Survey of major sociological theories and research on inequality in modern societies. Examines the distribution of wealth, status, political power, and other valued resources; the effects of class, race, gender, and other modes of social differentiation; social mobility and the reproduction of inequality.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Fall

SOCIO 842 - Technology and Society

Credits: 3

Technology has contributed to significant changes in our social, cultural, and economic landscape. Provides a survey of theoretical perspectives and current research on the role of technology in society.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Spring-Even Years

SOCIO 850 - Criminal Justice in Context

Credits: 3

Examines various institutions of contemporary criminal justice operations, focusing primarily on the "three C's"-cops, courts, and corrections-and adjacent subjects such as law. Emphasis will be given to foundational works that emphasize history, theory, policy, and empirical research.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Other

SOCIO 851 - Sociology of Development

Credits: 3

Introduction to the sociology of development. Focus is comparative-historical, involving theoretical and empirical analysis of development dynamics over time and across places, both within the U.S. and abroad. Significant attention to the interdisciplinary aspects of the sociology of development, including economic, geographic-spatial, and political analyses.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing.

Typically Offered
Spring-Odd Years

SOCIO 853 - International Development

Credits: 3

Comparative analysis of competing theories and experiences of development in post-WWII Asian, African, and Latin American societies. Topics include how core theories of development have changed over time and how well they explain related and changing patterns of finance and production, class struggle, state society-relations, labor

rights, gender relations, and migration.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 809.

Typically Offered
Fall

SOCIO 861 - Sociology of Deviance

Credits: 1

A critical examination of the nature, types, and societal reactions to deviant behavior. Special emphasis will be given to the process of stigmatization, the social construction of deviance as a social problem, and the effect of inequalities such as race, gender, class, and sexuality on the process of creating and applying deviant labels to individuals and groups.

Repeat for Credit
Y

Requisites
Prerequisite: 9 hours social science credit.

Typically Offered
Fall-Odd Years

SOCIO 862 - Criminological Theory

Credits: 3

Focuses on traditional and contemporary criminological theories with secondary emphasis on presentation of empirical studies employing the theories under study. Theoretical integration will be stressed.

Repeat for Credit
Y

Requisites
Prerequisite: Twelve hours of social science.

Typically Offered
Spring-Odd Years

SOCIO 863 - Sociology of Victimology

Credits: 3

Focuses on the unique area of Victimology. Examines recent scholarship, methodological issues, and theoretical perspectives. Requires research paper and peer criticism.

Repeat for Credit
N

Typically Offered
Fall, Spring

SOCIO 880 - Social Movements

Credits: 3

Examines sociological theories about social movements and their organizational structures and strategies, with an analysis of historical and contemporary nationalist, socialist, labor, womens, civil rights, and environmental movements in the United States and around the world.

Repeat for Credit
N

Typically Offered
Fall-Odd Years

SOCIO 897 - Practicum in Social Analysis

Credits: 3-6

Provides professional field experience for students enrolled in the Master's in Social Analysis program in an approved public agency, organization, or private firm, under direction of a faculty member. Requires participation in a quarterly seminar.

Repeat for Credit
Y

Requisites
Prerequisite: One semester in the MSA program and SOCIO 822.

Typically Offered
Spring

SOCIO 898 - Master's Report Research

Credits: 1-18

Master's Report Research

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

SOCIO 899 - Master's Thesis Research

Credits: 1-18

Master's Thesis Research

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

SOCIO 901 - Research Problems in Sociology

Credits: 1-18

Individual study and research for students admitted to doctoral standing in the Graduate School.

Repeat for Credit
Y

Requisites
Prerequisite: M.A., consent of instructor.

Typically Offered
Fall, Spring, Summer

SOCIO 911 - Seminar in Sociological Theory

Credits: 3

Selected topics in sociological theory. May be repeated with consent of supervisory committee.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 710 and SOCIO 810.

Typically Offered
Spring

SOCIO 923 - Methods of Social Policy Research

Credits: 3

Examination of principles, techniques, and design of retrospective and prospective social policy research.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 823 or equivalent.

Typically Offered
Fall-Even Years

SOCIO 925 - Specialized Approaches to Sociological Research

Credits: 3

Intensive examination of methodological approaches developed for analysis of sociological problems. The approaches to be examined will depend on faculty and student interests. Likely foci include estimation procedures for structural equation models, advanced techniques for quantitative analysis of categorical data, techniques for social network analysis and methods for comparative and historical analysis.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 823 and instructor's permission.

Typically Offered
Spring-Odd Years

SOCIO 931 - Seminar in Demographic Methods

Credits: 3

Demographic processes such as fertility, mortality, and migration, with emphasis on measurements, methods, and analytical techniques. Includes the construction of life tables and population estimates and projections.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 823 and SOCIO 830.

Typically Offered
Spring-Even Years

SOCIO 932 - Seminar in Comparative Community Organization

Credits: 3

Recent developments in theory and research on processes affecting community organization. Topics will vary. Possible emphases include world urbanization, community linkages to regional and global systems, technology and local economic development, rural community development, and community-based collective action.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 832 or SOCIO 834 or equivalent.

Typically Offered
Fall-Odd Years

SOCIO 933 - Gender and Society

Credits: 3

Exploration of feminist theorizing of gender relations in constructing and maintaining social institutions. Objective is to acquaint students with the strengths and weaknesses of current theories of gender, and to analyze social structures as both constituting and constitutive of gender relations at the macro/meso level of society.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 841.

Typically Offered
Spring-Odd Years

SOCIO 934 - Sociology of Rural Development

Credits: 3

Consideration of selected topics and issues in the social organization of rural areas, both international and in the U.S.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 851 or consent of instructor.

Typically Offered
Fall-Odd Years

SOCIO 935 - Seminar in Demography

Credits: 3

Consideration of selected topical areas in demography such as fertility and family planning, migration, population and development, and regional demography.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 830 or equivalent.

Typically Offered
On sufficient demand

SOCIO 940 - Seminar in Work and Organizations

Credits: 3

Topics and issues in the social structure of industries, firms, and labor processes.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 841.

Typically Offered
Fall-Odd Years

SOCIO 944 - Seminar in the Sociology of Aging

Credits: 3

Consideration of selected topics and issues in the sociology of aging such as retirement and institutional change,

societal reactions to aging, population structure and socioeconomic consequences of aging populations, the social organization of leisure, the impact on social organization of services for older people, the structural and organizational consequences of widowhood, age-grading and stratification in aging populations, analysis of the impact on community structure, and organization of special institutions for older people.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 744.

Typically Offered
Other

SOCIO 950 - Seminar in Social Interaction

Credits: 3

Examination of current theoretical, methodological, and research issues and topics.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 852, or equivalent.

Typically Offered
Spring-Even Years

SOCIO 951 - Political Sociology

Credits: 3

A survey of core readings in the subfield of political sociology. Covers classical sociological and political theory followed by current debates and research agendas, including world systems theory, post-colonial theory, neo-marxism, resource mobilization theory, game theory, and cultural theories of political action.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 809

Typically Offered
Spring-Even Years

SOCIO 953 - States and Civil Society

Credits: 3

Examines the relationship between the modern nation-state and powerful non-state institutions and social forces. Introduces prominent theories on the rise of the nation-state and its global transmission as the dominant form of governance. Addresses the role of social capital, social movements, NGOs, religious organizations, and educational institutions in upholding or challenging nation-state legitimacy.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 809; SOCIO 851.

Typically Offered
Spring-Even Years

SOCIO 961 - Methods Seminar in Criminology/Deviance

Credits: 3

Examination of principles, techniques, and design of research in criminology, deviance, and corrections.

Repeat for Credit
Y

Requisites
Prerequisite: SOCIO 824 or SOCIO 825.

Typically Offered
Fall-Even Years

SOCIO 962 - Topics Seminar in Criminology/Deviance

Credits: 3

Selected topical areas in criminology/deviance such as gender, race and/or class and crime; social control; domestic violence; lethal violence; victimology; issues in corrections; and issues in law.

Repeat for Credit
Y

Requisites

Prerequisite: SOCIO 850 or consent of instructor.

Typically Offered
Spring-Odd Years

SOCIO 999 - PhD Dissertation Research

Credits: 1-18

PhD Dissertation Research

Repeat for Credit
Y

Typically Offered
Other

SOCWK 100 - Social Work: The Helping Profession

Credits: 3

An introduction to the profession of social work and the various fields of social service by observing, experiencing, and analyzing social work and its place in society. An opportunity for the student to test social work as a possible career choice.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
5 Social and Behavioral Sciences

K-State 8
Historical Perspectives
Social Sciences

SOCWK 141 - First Year Orientation

Credits: 1

Orients first year students to the social work major and on-campus resources that will enable them to be successful. Engages students in discussion groups and community engagement activities to meet social work faculty members and students within the major. Develops student relationships and practices that allow them to effectively utilize college resources and become members of a community of learners.

Repeat for Credit
N

Typically Offered
Fall or Spring

SOCWK 151 - Social Work Career Development

Credits: 1

Develops career goals of social work majors. Exposes students to the breadth of career options in social work. Connects students with practicing social workers and faculty members.

Repeat for Credit
N

Typically Offered
Fall or Spring

SOCWK 200 - Basic Skills for Working with People

Credits: 3

Course develops basic skill components for the helping professions. Students learn fundamentals of interpersonal communication.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
5 Social and Behavioral Sciences

K-State 8
Ethical Reasoning and Responsibility

SOCWK 240 - Self-care for the Helping Professional

Credits: 1

Explores personal health and self-care of the helping professional. Discusses importance of self-care and best practices for maintaining personal and professional well-

being across the physical, mental, social, and spiritual self.

Repeat for Credit
N

Typically Offered
Spring

SOCWK 261 - Client Perspectives in Social Work

Credits: 1

Develops student critical thinking skills and understanding of client experiences through memoirs and first-person accounts of living within different at-risk populations. Explores client experiences and needed policies to address social problems.

Repeat for Credit
Y

Typically Offered
Fall or Spring

SOCWK 300 - Diversity, Equity, Inclusion, and Belonging in Social Work Practice

Credits: 3

Provides foundational knowledge of diversity, equity, inclusion, and belonging within social work practice in the United States. Examines theoretical, conceptual, and policy-based knowledge of systems of oppression, and the ways in which power and privilege are manifested within them.

Repeat for Credit
N

Typically Offered
Fall or Spring

K-State 8
Social Sciences
Human Diversity within the U.S.

SOCWK 310 - Topics in Social Work

Credits: 1-3

Supervised independent study projects.

Note
Consent of the instructor.

Repeat for Credit
Y

Typically Offered
Fall, Spring

SOCWK 312 - Fundamentals of Communication for the Agriculture and Food Science Community

Credits: 3

This course develops communication skills among the scientific community to improve discourse with lay persons. Fundamentals of active listening as well as techniques to diffuse tense situations are addressed.

Repeat for Credit
N

Typically Offered
Fall, Spring

SOCWK 315 - Human Behavior in the Social Environment I

Credits: 3

An introduction to the relationship among biological, social, psychological, and cultural systems as they affect or are affected by human behavior as it relates to social world models of practice. Emphasis on social systems understanding of human development.

Repeat for Credit
N

Requisites
Prerequisite: Two courses in the social sciences and sophomore standing.

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

SOCWK 320 - Dynamics of Working with Older Adults

Credits: 3

Provide students in all fields a unique foundation upon which successful interaction with older adults is built. Specific communication techniques will be taught along with the knowledge, skills and values necessary to understand working with, or on the behalf of, older consumers, clients, patients and family members.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Social Sciences

SOCWK 340 - Global Social Work

Credits: 3

Explores the underlying theories, concepts, and practice skills related to international social work.

Repeat for Credit
N

Typically Offered
Fall-Odd Years

K-State 8
Global Issues and Perspectives

SOCWK 350 - Social Work with Criminal Offenders and Victims

Credits: 3

This course offers an overview of social work practice and professional helping skills in the criminal justice and legal systems.

Repeat for Credit
N

Requisites
Prerequisites: SOCWK 100 or SOCIO 211 and SOCIO 361.

Typically Offered
Fall-Even Years

K-State 8
Social Sciences
Human Diversity within the U.S.

SOCWK 360 - Substance Abuse Case Management and Holistic Recovery

Credits: 3

Introduction to the concept of case management and the role case managers play in helping persons with substance use disorders obtain and maintain recovery.

Repeat for Credit
N

Typically Offered
Spring, Summer

SOCWK 370 - Child Welfare

Credits: 3

Provides students with an understanding of the dynamics of child maltreatment and the role of the child welfare system in responding to maltreatment. Explores maltreatment across generations, the role of societal norms in perpetuating maltreatment, and culturally competent services for ending the intergenerational cycle of abuse. Examines government policies over time to promote child welfare and the effect of these policies on child safety, permanency, and family reunification.

Repeat for Credit
Y

Requisites
Recommended Prerequisite or Corequisite: SOCWK 100

Typically Offered
Fall, Spring

K-State 8
Social Sciences

SOCWK 380 - Social Work and Intimate Partner Violence

Credits: 3

This course will provide students an understanding of the knowledge and skills necessary to respond to intimate partner violence in an ethical, victim-centered and trauma informed manner.

Repeat for Credit
N

Requisites
Prerequisite: SOCWK 100 or SOCIO 211.

Typically Offered
Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Historical Perspectives

SOCWK 468 - Community Activism and Social Change

Credits: 3

Examines how social workers and citizens, individually and collectively, can achieve social progress through nonviolent social change.

Repeat for Credit
Y

Requisites
Prerequisite: SOCWK 100 or SOCIO 211.

Typically Offered
Spring-Even Years

K-State 8
Empirical and Quantitative Reasoning
Historical Perspectives

SOCWK 499 - Honors Project

Credits: 3

Open only to Arts & Sciences students who are active members of the University Honors Program.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

SOCWK 501 - Proficiency Development

Credits: 1-3

Integrative review of social work concepts and skills under faculty supervision.

Note
For single students or groups of students. Not applicable to major field requirements. Consent of instructor and superior performance in relevant course.

Repeat for Credit
Y

Typically Offered
Other

SOCWK 510 - Social Welfare as a Social Institution

Credits: 3

Examines policies and programs to address social problems and their impact on individuals. Explores values and beliefs underlying social welfare policy and history of social welfare policy in the United States. Identifies strengths and weaknesses of current government interventions, with special emphasis on policies to promote social and economic justice in the United States and abroad. Reviews ways to conduct effective social welfare policy analysis and interventions.

Repeat for Credit
N

Requisites
Prerequisite: One course in each of the following areas: sociology, economics, and political science.

Typically Offered
Fall, Spring

Cross-listed
SOCIO 510

SOCWK 530 - Social Work Research and Evaluation Methods

Credits: 3

Focuses on applying research skills to engage in the evidence-based practice (EBP) process, a core component of generalist practice. Students will prepare a program evaluation proposal, including formulating a problem statement, EBP development, designing an evaluation plan, and selecting appropriate outcome measures.

Note
Social work and addiction counseling majors only.

Repeat for Credit
Y

Requisites
Prerequisite: MATH 100 OR STAT 225
Social Work and Addiction Counseling majors only

Typically Offered
Fall

K-State 8
Empirical and Quantitative Reasoning

SOCWK 550 - Field Practicum Preparation

Credits: 1-3

Social work majors take this course in the semester before enrollment in SOCWK 562 Field Experience, in preparation for the field practice experience. Students explore various fields of practice and social work settings and work with the instructor to plan their practicum for the following semester.

Note
Social work majors only.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing and instructor permission.

Typically Offered
Fall, Spring

SOCWK 560 - Social Work Practice I

Credits: 3

Continued development of social work practice skills. The social systems perspective is used to guide the development of a problem-solving methodology with attention to information gathering, assessment, and problem identification. Values clarification and self awareness are emphasized and the skills needed for intervention, termination, and evaluation are introduced.

Note
Social Work majors only.

Repeat for Credit
N

Requisites
Prerequisite: SOCWK 100, SOCWK 200, SOCWK 315, and SOCWK 510; junior standing; and permission of the instructor.
Social Work majors only.

Typically Offered
Fall, Spring

SOCWK 561 - Social Work Practice II

Credits: 3

Continuation of SOCWK 560 with emphasis on skill development in interventinon techniques, and practice evaluatiuon from a social systems perspective. A variety of intervention strategies and techniques is presented with emphasis on the development of a social work frame of reference.

Repeat for Credit
N

Requisites
Prerequisite: SOCWK 560 and senior standing and permission of the instructor.
Must be taken concurrently with SOCWK 571 or by instructor permission.

Typically Offered
Fall, Spring

SOCWK 562 - Field Experience

Credits: 1-10

Supervised field experience in community agencies and programs as a practical application of social work knowledge and skills gained from major course work. Emphasis on direct work with clients, whether individuals,

groups, or communities. Seminars make use of student's experiences to analyze social work theory and practice.

Note
Social work majors only.

Repeat for Credit
Y

Requisites
Prerequisite: SOCWK 550 and SOCWK 561; senior standing; permission of the instructor.
Social work majors only

Typically Offered
Fall, Spring, Summer

SOCWK 563 - The Practice of Social Work in Rural Areas

Credits: 3

A review of characteristics and social problems of rural areas. The development of practice competency in social work roles and skills necessary for rural practice.

Repeat for Credit
N

Requisites
Prerequisite: SOCWK 560.

Typically Offered
On sufficient demand

SOCWK 564 - Social Work Professional Seminar

Credits: 1-2

A review of various theories in the behavioral sciences which influence the practice of social work. Primary focus of the course is on the use of these theories in implementing change in various client systems.

Note
Social work majors only.

Repeat for Credit
Y

Requisites
Prerequisite: To be taken concurrent with SOCWK 562.

Typically Offered
Spring, Summer

SOCWK 565 - Social Policy

Credits: 3

Examination of policies and programs developed to cope with various social problems. Emphasis will be placed on analysis of existing programs and policies and the formulation of alternative policies. Attention will be given to policy change through organizational and legislative action.

Repeat for Credit
N

Requisites
Prerequisite: SOCWK 510; one course in each of the following areas: sociology, economics, and political science; and one course in social science research methods.

Typically Offered
Fall, Spring

Cross-listed
SOCIO 565

K-State 8
Ethical Reasoning and Responsibility
Social Sciences

SOCWK 568 - Macro Practice and Theory

Credits: 3

Continuation of social work practice sequence with focus on skills development for macro-level social work practice and an understanding of macro-systems using the ecological perspective as a framework. Community and organization intervention strategies with emphasis on the development of a social work frame of reference. Focus on institutional racism, institutional discrimination, and the importance of recognizing these functions within society.

Note
Social work majors only.

Repeat for Credit
N

Requisites

Co-requisite: SOCWK 560 or instructor permission.
Social work majors only

Typically Offered
Fall, Spring

SOCWK 570 - Social Work with Groups

Credits: 3

Theoretical framework for effective generalist social work practice with groups, facilitates the development of group leaders who possess an understanding of group dynamics and effective leadership skills through group discussion, experiential exercises and leadership experiences. To be taken concurrently with SOCWK 561.

Note
Social work majors only.

Repeat for Credit
N

Requisites
Prerequisite: SOCWK 560 or instructor permission.
Co-requisite: SOCWK 561.
Social work majors only.

Typically Offered
Fall, Spring

SOCWK 610 - Topics in Social Work

Credits: 1-3

Supervised independent study projects.

Repeat for Credit
Y

Requisites
Prerequisite: SOCWK 100 plus 6 hours of behavioral science foundation courses and consent of instructor.

Typically Offered
Other

SOCWK 611 - Social Welfare as a Social Institution

Credits: 3

Examines policies and programs to address social problems and their impact on individuals. Explores values and beliefs underlying social welfare policy and history of social welfare policy in the United States. Identifies strengths and weaknesses of current government interventions, with special emphasis on policies to promote social and economic justice in the United States and abroad. Reviews ways to conduct effective social welfare policy analysis and interventions.

Repeat for Credit
N

Typically Offered
Spring

SOCWK 612 - Fundamentals of Communication for the Agriculture and Food Science Community

Credits: 3

This course develops communication skills among the scientific community to improve discourse with lay persons. Fundamentals of active listening as well as techniques to diffuse tense situations are addressed. Students will apply the skills learned to their career field through a final research project.

Repeat for Credit
N

Typically Offered
Fall, Spring

SOCWK 630 - Social Work Research and Evaluation Methods

Credits: 3

This course focuses on applying research skills to engage in the evidence-based practice (EBP) process, a core component of generalist practice. Students will prepare a program evaluation proposal, including formulating a problem statement, EBP development, designing an evaluation plan, and selecting appropriate outcome measures.

Repeat for Credit
Y

Typically Offered
Fall

SOCWK 650 - Assessment and Treatment of Substance Use Disorders

Credits: 3

Comprehensive examination of substance use treatment and rehabilitation includes a thorough examination of the treatment models of addiction, recovery, and relapse.

Repeat for Credit
N

Typically Offered
Fall, Summer

SOCWK 660 - Social Work Practice I

Credits: 3

Development of social work practice skills. The social systems perspective is used to guide the development of a problem-solving methodology with attention to information gathering, assessment, and problem identification. Values clarification and self-awareness are emphasized and the skills needed for intervention, termination and evaluation are introducted.

Repeat for Credit
N

Typically Offered
Fall

SOCWK 661 - Social Work Practice II

Credits: 3

Advanced development of social work practice skills with emphasis on skill development in intervention techniques, and practice evaluation from a social systems perspective. A variety of intervention strategies and techniques is presented with emphasis on the development of a social work frame of reference.

Repeat for Credit
N

Requisites
Prerequisite: SOCWK 660.

Typically Offered
Spring

SOCWK 662 - Field Experience

Credits: 1-10

Supervised field experience in community agencies and programs as a practical application of social work knowledge and skills gained from social work course work. Emphasis on direct work with clients, whether individuals, groups, or communities. Assignments make use of student's experiences to analyze social work theory and practice.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

SOCWK 668 - Macro Practice and Theory

Credits: 3

Social work practice with focus on skills development for macro-level social work skills and an understanding of macro-systems using the ecological perspective as a framework. Community and organization intervention strategies with emphasis on the development of a social work frame of reference. Focus on institutional racism, institutional discrimination, and the importance of recognizing these functions within society.

Repeat for Credit
N

Typically Offered
Fall

SOCWK 670 - Social Work with Groups

Credits: 3

Provides the theoretical framework for effective generalist social work practice with groups, facilitates the development of group leaders who possess an understanding of group dynamics and effective leadership skills through group discussion, experiential exercises and leadership experiences.

Repeat for Credit
N

Typically Offered
Spring

SPAN 003 - Orientation for Summer School Abroad Program in Zacatecas/Cuernavaca, Mexico

Credits: 0

Orientation for Summer School Abroad Program in Zacatecas/Cuernavaca, Mexico

Repeat for Credit
Y

Typically Offered
On sufficient demand

SPAN 101 - Spanish I

Credits: 4

Designed for students with no prior Spanish experience. Develops basic language skills and cultural awareness to function in everyday situations in Spanish-speaking communities. Conducted in Spanish with practice in speaking, listening, reading, and writing.

Note
Heritage speakers of Spanish see SPAN 302 or 411 and/or contact spanishcoordination@ksu.edu for placement.

Repeat for Credit
N

Requisites
Recommended Prerequisite: Less than 1-year previous Spanish study, and/or contact spanishcoordination@ksu.edu for placement.

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

SPAN 102 - Spanish II

Credits: 4

Continuation of Spanish 1. Develops basic language skills and cultural awareness to function in everyday situations in Spanish-speaking communities. Conducted in Spanish with practice in speaking, listening, reading, and writing.

Note
Heritage speakers of Spanish see SPAN 302 or 411 and/or contact spanishcoordination@ksu.edu for placement.

Repeat for Credit
N

Requisites
Recommended Prerequisite: SPAN 101, 1-2 years high school, and/or contact spanishcoordination@ksu.edu for placement.

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

SPAN 110 - Conversational Spanish for the Workplace

Credits: 3

Introduction to the basic Spanish conversational skills focusing on everyday language used in the workplace with an emphasis on technical terms and concepts, supplemented with grammar and writing.

Repeat for Credit
N

Typically Offered
Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

SPAN 201 - Spanish III

Credits: 3

Enhances skills in reading and analysis to develop intermediate proficiency in Spanish. Grammatical structures presented in context through literary and informational texts, media, to promote cultural awareness. Conducted in Spanish.

Note
This course applies toward major or minor requirements. Heritage speakers of Spanish see SPAN 302 or SPAN 411, and/or contact spanishcoordination@ksu.edu for placement

Repeat for Credit
N

Requisites
Recommended Prerequisite: SPAN 102, 3-4 years high school, and/or contact spanishcoordination@ksu.edu for placement.

Typically Offered
Fall, Spring, Summer

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

SPAN 301 - Spanish IV

Credits: 3

Bridges to more advanced language, culture, and literature courses. Grammatical structures studied in context through literary and informational materials. Conducted in Spanish. Practice in researching and presenting the history and cultures of Spanish-speaking countries.

Note
This course applies toward major or minor requirements. Heritage speakers of Spanish see SPAN 302 or SPAN 411, and/or contact spanishcoordination@ksu.edu for placement

Repeat for Credit
N

Requisites
Recommended Prerequisite: SPAN 201, 4-5 years high school or equivalent.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

SPAN 302 - Spanish IV for Heritage Speakers

Credits: 3

Designed for individuals who have been exposed to Spanish from an early age at home. Promotes awareness of linguistic variation in Spanish; exposes students to an academic register; develops basic literary skills, such as spelling and lexicon, so that learners can effectively engage in scholarly contexts and endeavors.

Note
This course is equivalent to SPAN 301, and applies toward major or minor requirements.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Human Diversity within the U.S.

SPAN 398 - Intermediate Studies in Spanish

Credits: 1-18

Offered only to participants in study abroad programs. Prior consultation for approval is expected.

Repeat for Credit
Y

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

SPAN 410 - Spanish Communication through Pop Culture

Credits: 3

Improve spontaneous conversation in Spanish through impromptu discussions, word games, partner conversations and more. Improve our writing skills through creative writing prompts, peer-review and writing workshops. Activate language absorption through authentic input by listening to music, watching documentaries, tv shows and films, and reading short stories and graphic novels in Spanish.

Repeat for Credit
N

Requisites
Recommended: SPAN 301 or SPAN 302 or equivalent.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

SPAN 411 - Spanish for heritage speakers: Composition and grammar

Credits: 3

Course for heritage speakers of Spanish to improve reading and writing skills, including grammar, and develop a professional and academic knowledge of the language.

Repeat for Credit
N

Requisites
Prerequisite: Recommended SPAN 302.

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives

SPAN 420 - Spanish Conversation

Credits: 3

Intensive practice in conversation to develop listening and speaking skills, expand vocabulary, and review grammatical structures.

Note
May be taken with SPAN 410. Course designed for students whose primary language is not Spanish or whose competence has been demonstrated in the language at this level.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 301 or equivalent.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

SPAN 421 - Listening Skills

Credits: 3

Develops aural comprehension skills for communicative situations with focus on Spanish phonetics and interpretation of oral texts within the corresponding cultural context.

Note
Not open to native speakers of Spanish.

Repeat for Credit
N

Requisites
Prerequisites: SPAN 410 or equivalent.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives

SPAN 530 - Professional Spanish: Business

Credits: 3

Develops culturally relevant communication skills in business and professional contexts. Specialized content and vocabulary including professional writing, such as employment materials.

Repeat for Credit

N

Requisites
Prerequisite: SPAN 410 or SPAN 411.

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives

SPAN 531 - Professional Spanish: Health and Human Services

Credits: 3

Develops culturally relevant communication skills in health and human services contexts (including social work, kinesiology, dietetics, education). Specialized content and vocabulary, community-based learning, and experience in professional writing.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 410 or SPAN 411.

Typically Offered
Fall

K-State 8
Global Issues and Perspectives
Ethical Reasoning and Responsibility

SPAN 550 - Introduction to Hispanic Readings and Media

Credits: 3

Communication, critical thinking, and analytical skills applied to Spanish-language literary texts, film, and art. Skill development through conversation, presentations, papers, and creative projects.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 410 or SPAN 411.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

SPAN 551 - Hispanic Readings and Media for Heritage Language Learners

Credits: 3

Spanish literary introductory course for students who have acquired Spanish at home at an early age. A wide variety of literary productions and modalities are explored (e.g., songs, poems, fiction, and films). Special emphasis is placed on 1) identity-related discussions and 2) the sharing of cultural experiences to facilitate the co—construction of knowledge and the creation of a community.

Repeat for Credit
N

Requisites
Recommended Prerequisite: SPAN 411

Typically Offered
Fall or Spring

SPAN 560 - Cultures of the Spanish-speaking World: U.S. Latinx

Credits: 3

Explores the development of literature and other media representing Latinx experiences in the United States since the Mexican-American War.

Note
Taught in Spanish, may include some texts in English.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 410 or SPAN 411.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

SPAN 565 - Cultures of the Spanish-speaking World: Spain

Credits: 3

Develops critical understanding of the historical, political, and social forces that have shaped Spanish literature and culture through interdisciplinary focus on a topic (e.g. cities, music, sport).

Repeat for Credit
N

Requisites
Prerequisite: SPAN 550.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Historical Perspectives

SPAN 566 - Cultures of the Spanish-speaking World: Spanish America

Credits: 3

Develops critical understanding of the historical, political, and social forces that have shaped Spanish-America through interdisciplinary focus on a region or topic (e.g. food identity, journeys, revolutions).

Repeat for Credit
N

Requisites
Prerequisite: SPAN 550.

Typically Offered
Spring

K-State 8
Global Issues and Perspectives
Historical Perspectives

SPAN 567 - Cultures of the Spanish-speaking World: Transatlantic

Credits: 3

Develops critical understanding of the historical, political, social forces that have connected Spanish and Spanish American literatures and cultures over time through interdisciplinary focus on a topic (e.g., conflict, exploration, social class).

Repeat for Credit
N

Requisites
Prerequisite: SPAN 550 and SPAN 565.

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives
Historical Perspectives

SPAN 568 - Literature of Spanish America

Credits: 3

Analysis of representative works of Spanish American literature from the pre-Columbian period to the present. Develops an understanding of historical and cultural context within the framework of Spanish American literary criticism.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 550 and SPAN 566.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Historical Perspectives

SPAN 569 - Special Studies in Spanish

Credits: 1-18

Special Studies in Spanish

Note
Consent of department head and instructor involved.

Repeat for Credit
Y

Typically Offered
Other

SPAN 575 - Introduction to Spanish Translation

Credits: 3

Introduction to concepts of translation, including aspects of history, theory, and professional ethics. Practice in bi-directional translation [Spanish-English-Spanish] of a variety of texts in different genres including literature.

Repeat for Credit
N

Requisites
Prerequisite: Minimum of 3 credit hours at the 500 level or instructor permission.

Typically Offered
On sufficient demand

K-State 8
Global Issues and Perspectives

SPAN 580 - Introduction to Spanish Linguistics

Credits: 3

Introduction to the fundamentals of linguistic analysis, including the sound system, word and sentence formation, and semantic and pragmatic meaning. Formal and usage-based perspectives. Application of linguistics to language acquisition theory and to pedagogy.

Note
Taught in Spanish.

Repeat for Credit
N

Requisites
Prerequisite: Minimum of 3 hours at the 500 level or instructor permission.

Typically Offered
Fall, Spring

K-State 8
Global Issues and Perspectives
Social Sciences

SPAN 670 - Advanced Spanish Grammar

Credits: 3

Intensive study of the structures of the Spanish Language for communicative and pedagogical purposes. Comparison/contrast to English structures.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 410 or equivalent.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

SPAN 730 - Medieval Spanish Literature

Credits: 3

Texts and contexts in Medieval Spain, from *jarchas* to *La Celestina*. Focus on the roles of ideologies, schools and genres. Incorporates manuscripts and oral traditions. Reading- and writing-intensive class.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 567 or SPAN 568. SPAN 565 recommended.

Typically Offered
Fall, Spring

SPAN 731 - Early Modern Literature of Spain

Credits: 3

Contextualized discussion and analysis of literature and cultural life in 15th-17th-century Spain. Course may be focused on a theme, genre, or writer (such as Miguel de Cervantes).

Note
Note: Develops ability to interpret and craft complex, abstract language. Reading- and writing-intensive class.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 550 and 6 additional hours at the 500-level or instructor permission.

Typically Offered
On sufficient demand

SPAN 732 - Cervantes

Credits: 3

Reading and discussion of the works of Cervantes and of his literary and cultural background.

Note
Reading- and writing-intensive class.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 567 or SPAN 568. SPAN 565 recommended.

Typically Offered
Fall, Spring

SPAN 734 - 18th - and 19th - Century Spain

Credits: 3

Contextualized discussion and analysis of literature and cultural life in 18th-19th-century Spain. Course may be focused on a theme, genre, or movement (Enlightenment, Romanticism, Realism, Naturalism). Topics may include anticlericalism and Catholicism; revolution and empire; scientific reasoning.

Note
Develops ability to interpret and craft complex, abstract language. Reading- and writing-intensive class.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 550 and 6 additional hours at the 500-level or instructor permission.

Typically Offered
On sufficient demand

SPAN 735 - 20th- and 21st-Century Spain

Credits: 3

Contextualized discussion and analysis of contemporary Spanish literature and cultural life. Course may be focused on a theme or genre (e.g., the Generation of '27, the Spanish Civil War, the Franco dictatorship and transition to democracy, feminism, or immigration).

Note
Develops ability to interpret and craft complex, abstract language. Reading- and writing-intensive class.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 550 and 6 additional hours at the 500-level or instructor permission.

Typically Offered
On sufficient demand

SPAN 736 - Spanish Poetry

Credits: 3

Texts and contexts of poetry in Spain from the *jarchas* of the early Middle Ages through the 21st Century.

Note
Reading- and writing-intensive class.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 567 or SPAN 568. SPAN 565 recommended.

Typically Offered
Other

SPAN 750 - Spanish American Narrative

Credits: 3

Contextualized discussion and analysis of literary and cultural narratives over time, focused on a theme or

region. Topics may include cultural encounters, illness and disability, ecology, modernity.

Note
Develops ability to interpret and craft complex, abstract language. Reading- and writing-intensive class.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 550 and 6 additional hours at the 500-level or instructor permission.

Typically Offered
On sufficient demand

SPAN 751 - Spanish-American Narrative: Early Twentieth Century

Credits: 3

Contextualized discussion and analysis of early twentieth-century narrative literature. Includes *modernismo*, the Avant-Garde, and *criollismo/la novela de la tierra.*

Note
Reading- and writing-intensive class.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 567 or SPAN 568. SPAN 565 recommended.

Typically Offered
Fall, Spring

SPAN 752 - Spanish American Topics

Credits: 3

Interdisciplinary exploration of a Spanish American political, social, or cultural issue over time. Examples: memory and testimonio, utopia and dystopia, gender and sexuality. Includes literary readings and media.

Repeat for Credit
Y

Requisites
Prerequisite: SPAN 550 and 6 additional hours at the 500-level or instructor permission.

Typically Offered
On sufficient demand

SPAN 755 - Spanish American Performance Studies

Credits: 3

Contextualized interdisciplinary approach to performance studies in Spanish America. Discussion and analysis of plays and other performative events (political protests, rituals, installations). May focus on a time period, region, or theme.

Note
Develops ability to interpret and craft complex, abstract language. Reading- and writing-intensive class.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 550 and 6 additional hours at the 500-level or instructor permission.

Typically Offered
On sufficient demand

SPAN 757 - Spanish-American Poetry

Credits: 3

Contextualized discussion of Spanish American poetry over time, focused on a theme or region. Examples: musicality and song lyrics, places and journeys, voice and identity, innovation.

Note
Develops ability to interpret and craft complex, abstract language. Reading- and writing-intensive class.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 550 and additional 6 hours at the 500-level or instructor permission.

Typically Offered
On sufficient demand

SPAN 760 - U.S. Latinx Literature and Culture in Spanish

Credits: 3

Examines the border as a metaphorical concept in Latinx literature and culture. Analysis of literary texts and media that explore intersecting identities, languages, and counter-traditions that shape the Latinx cultural legacy in the U.S.

Note
Develops ability to interpret and craft complex, abstract language. Reading- and writing-intensive class.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 550 and 6 additional hours at the 500-level or instructor permission.

Typically Offered
On sufficient demand

SPAN 768 - Hispanic Cinema

Credits: 3

Critical analysis of films representing a selected region, period, or theme, within their theoretical, cultural, socio-political and historic contexts.

Note
Develops ability to interpret and craft complex, abstract language. Reading- and writing-intensive class.

Repeat for Credit
Y

Requisites
Prerequisite: SPAN 550 and 6 additional hours at 500-level or instructor permission.

Typically Offered
On sufficient demand

SPAN 771 - Advanced Spanish Translation

Credits: 3

Analysis and practice in bi-directional translation [Spanish-English-Spanish] of a variety of texts from a number of genres, including literary texts. Discussion of professional opportunities for translators and interpreters. Development of personal portfolio.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 575 or senior level.

Typically Offered
Spring, Summer

SPAN 772 - Spain Today

Credits: 3

Explores key issues of contemporary Spain including the legacy of the Spanish Civil War. Interdisciplinary focus on a topic, such as regional tensions, economics, politics. Representative literary texts and media serve as a basis for developing a critical view of the region.

Note
Develops ability to interpret and craft complex, abstract language. Reading- and writing-intensive class.

Repeat for Credit
N

Requisites
Prerequisite: Minimum of 3 hours at the 700-level or instructor permission.

Typically Offered
On sufficient demand

SPAN 773 - Spanish America Today

Credits: 3

Focus on the most significant cultural, social, political, ecological and economic issues affecting Spanish America in recent years. Representative literary texts and media serve as a basis for developing a critical view of the region.

Note
Develops ability to interpret and craft complex, abstract language. Reading- and writing-intensive class.

Repeat for Credit
N

Requisites

Prerequisite: Minimum of 3 hours at the 700-level or instructor permission.

Typically Offered
On sufficient demand

SPAN 774 - Topics in Spanish Translation/Interpreting

Credits: 3

Theory, strategies, terminology, and practice in a designated field in Spanish<>English translation and/or interpreting (fields: healthcare, literary translation, legal, technical and scientific community interpreting).

Repeat for Credit
Y

Requisites
Prerequisite: SPAN 575 or SPAN 771.

Typically Offered
Other

SPAN 776 - History of the Spanish Language

Credits: 3

The development of Spanish from Latin to its present-day variation in the Spanish-speaking world. Influence of and interaction with world cultures and languages across time.

Note
Reading- and writing-intensive class.

Repeat for Credit
N

Requisites
Prerequisite: SPAN 565 or SPAN 566 or SPAN 567 or SPAN 568.

Typically Offered
Spring

SPAN 777 - Hispanic Cultures and Literatures: Teaching Strategies

Credits: 3

An integrated teaching program that develops linguistic, cultural and literary skills through the analysis and interpretation of texts from Spain and Spanish-America. Emphasis on student-centered cooperative and collaborative learning. Reading- and writing-intensive class.

Repeat for Credit
Y

Requisites
Prerequisite: SPAN 565 or SPAN 566 or SPAN 567 or SPAN 568.

Typically Offered
Fall, Spring

SPAN 779 - Selected Topics in Spanish

Credits: 3

In depth exploration of a special cultural, linguistic and/or literary subject. Reading- and writing-intensive class.

Repeat for Credit
Y

Requisites
Prerequisite: SPAN 565 or SPAN 566 or SPAN 567 or SPAN 568.

Typically Offered
Fall, Spring, Summer

SPAN 780 - Spanish in the US

Credits: 3

Surveys sociolinguistic features, socio-historical events, and matters pertaining to identity as key elements that shape a growingly popular linguistic variety despite its continuous stigmatization: Spanish in the US.

Repeat for Credit
N

Requisites
Prerequisites: Two 500-level SPAN courses (SPAN 580 preferred), instructor permission or Modern Language graduate student status.

Typically Offered
Fall or Spring

SPAN 799 - Research Topics in Spanish

Credits: 1-18

A seminar with variable topics.

Repeat for Credit
Y

Typically Offered
Other

SPAN 898 - Master's Report

Credits: 1-2

A written report of either research or problem work on a topic in the major field.

Note
Consult of major professor.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

SPAN 899 - Research in Modern Languages

Credits: 1-18

Research in Modern Languages

Repeat for Credit
Y

Typically Offered
Other

SSO 735 - Electron Microscopy of Aerospace Materials

Credits: 3

This course introduces students to the theory, fundamental operating principles, specimen preparation techniques, and chemical analysis utilizing scanning electron microscopy (SEM). Additionally, this course will emphasize these principles and techniques for characterizing the structure of aerospace materials at different length scales.

Repeat for Credit
N

Typically Offered
Fall, Spring

SSO 736 - Aerospace Metallurgy and Ceramics

Credits: 3

The science of metallurgy and ceramics and their manufacture will be the basis of this course and is aimed at providing the necessary fundamentals for understanding aerospace materials.

Repeat for Credit
N

Typically Offered
Fall, Spring

SSO 738 - Advanced Composite Materials

Credits: 3

The fundamentals of polymer-, metal-, and ceramic-matrix composites will be taught in this course and will be applied to solving a variety of aerospace problems.

Repeat for Credit
N

Typically Offered
Fall, Spring

SSO 739 - Space Systems Design and Dynamics

Credits: 3

This course focuses on introducing students to the analysis, architecture, and design of spacecraft including the analysis of orbit and attitude control, navigation systems, physical structures, propulsion systems, communication systems, thermal and electrical power systems. Similarities between spacecraft will be covered in detail and systems aspects of mission profiles will be discussed and analyzed.

Repeat for Credit
N

Typically Offered
Fall

SSO 740 - Space Systems Modeling, Simulation, and Control

Credits: 3

The course will introduce students to space mission modeling, simulation and control with an emphasis on space missions supporting civil and commercial operations. Topics include orbital mechanics, communications, space environment, spacecraft technology, civil/commercial space systems, model-based systems engineering concepts applied to physical systems, agent-based modeling and discrete event simulation of space systems. Systems dynamics modeling will be applied to physical space systems operating in various microgravity environments.

Repeat for Credit
N

Typically Offered
Fall

SSO 742 - Manufacturing and Materials in Space and on Earth

Credits: 3

The course will introduce the student to the world of manufacturing on Earth and in space. The course content includes the history of manufacturing in space, manufacturing spacecraft on Earth (spacecraft, telescopes, satellites, rovers, etc.), manufacturing standards, additive manufacturing, manufacturing construction in space, materials science aboard the International Space Station, challenges of manufacturing in space, circular economics and sustainability and planetary mining, materials and manufacturing.

Repeat for Credit
N

Typically Offered
Spring

SSO 801 - Space Operations and Environment

Credits: 3

Concentrates on the commercial and military use of space operations. Space operations have two goals: exploration and commercialization of space to benefit humanity as well as space warfare and conflict to defend earth resources and space resources.

Repeat for Credit
N

Typically Offered
Spring

STAT 100 - Statistical Literacy in the Age of Information

Credits: 3

Focus will be on the development of an awareness of statistics at the conceptual and interpretative level, in the context of everyday life. Data awareness and quality, sampling, scientific investigation, decision making, and the study of relationships are included. Emphasis will be on the development of critical thinking through in-class experiments and activities, discussions, analysis of real data sets, written reports, and collaborative learning. Computing activities will be included where appropriate; no previous computing experience required.

Intended for majors in non-quantitative fields.

Note
Cannot be taken for credit if credit has been received for any other statistics course.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

STAT 150 - Statistics and Data Science: Introductory Seminar for Majors

Credits: 1

An introduction to the field of statistics and data science. Topics of special interest to undergraduates majoring in statistics and data sciences, including cultural and professional aspects of the field and exploration of careers available to those trained in statistics and data science.

Repeat for Credit
N

Typically Offered
Fall, Spring

STAT 225 - Introduction to Statistics

Credits: 3

A first course in probability and statistics; random sampling; graphical and numeric summaries of qualitative and quantitative data; correlation and least squares regression; probability and random variables; the normal distribution, sampling distributions and the Central Limit Theorem; confidence intervals for one mean and one proportion; sample size estimation; hypothesis tests for one parameter, power and type I and II errors; statistical inference for the difference of two means based on independent samples and matched pairs designs; statistical inference for the difference of two population proportions.

Note
Cannot be taken for credit if credit has been received for STAT 240 or 250.

Repeat for Credit
N

Requisites
Students not meeting at least one of the KBOR placement measures below are required to also take STAT 226, which is a 2-credit corequisite support class.
Placement measures: A test score equal to or greater than, Math ACT 19 OR Math SAT 510 OR ALEKS PPL 30 OR Accuplacer QAS 255; OR (unweighted HS GPA 3.00 AND grade of C- or better in Algebra 2 or Integrated Math 3); OR MATH 100.

Typically Offered
Fall, Spring, Summer

K-State Core
3 Math and Statistics

K-State 8
Empirical and Quantitative Reasoning

STAT 226 - Introduction to Statistics Support

Credits: 2

Note: Introduction to Statistics Support credits cannot count towards the 120 required credits of a degree program. Students who do not meet any of the KBOR multiple placement measures for elementary statistics must also enroll in STAT 226 as the corequisite course to STAT 225.

Introduction to Statistics Support is the corequisite course for STAT 225 -Introduction to Statistics. STAT 226 aims to fill in gaps in students' background knowledge to promote success in STAT 225. The content of STAT 226 is directly aligned with the course objectives and content of STAT 225 but allows for flexibility to fit individual student needs. Topics vary based on student needs but can include simplifying and manipulating numerical and algebraic expressions; and reviewing functions, plots, graphs of functions, exponents, logarithms, and set theory. Students must enroll concurrently in STAT 225 and STAT 226.

This course was designed through a Kansas Board of Regents Math Pathways initiative. STAT 226 is the KBOR math pathways corequisite course for the Introduction to Statistics course.

Repeat for Credit
N

Requisites
Corequisite: STAT 225

Typically Offered
Fall, Spring

STAT 240 - Biometrics I

Credits: 3

A basic first course in probability and statistics with textbook, examples, and problems aimed toward the biological sciences. Frequency distributions, averages, measures of variation, probability, confidence intervals; tests of significance appropriate to binomial, multinomial, Poisson, and normal sampling; simple regression and correlation.

Note
Cannot be taken for credit if credit has been received for STAT 225 or 250.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

K-State 8
Empirical and Quantitative Reasoning

STAT 250 - Business and Economic Statistics I

Credits: 3

A basic first course in probability and statistics with textbook, examples, and problems pointed toward business administration and economics. Frequency distributions, averages, index numbers, time series, measures of variation, probability, confidence intervals, tests of significance appropriate to binomial, multinomial, Poisson, and normal sampling; simple regression and correlation.

Note
Cannot be taken for credit if credit has been received for STAT 225 or 240.

Repeat for Credit
N

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

STAT 341 - Biometrics II

Credits: 3

Analysis and interpretation of biological data using analysis of variance, analysis of covariance, and multiple regression. Negative binomial distribution and its applications.

Repeat for Credit
N

Requisites
Prerequisite: STAT 225 or STAT 240 or STAT 250.

Typically Offered
Spring

STAT 351 - Business and Economic Statistics II

Credits: 3

Continuation of STAT 250 including study of index numbers, time series, business cycles, seasonal variation, multiple regression and correlation, forecasting; some nonparametric methods applicable in business and economic studies.

Repeat for Credit
N

Requisites
Prerequisite: STAT 225, STAT 240 or STAT 250.

Typically Offered
Fall, Spring, Summer

STAT 410 - Probabilistic Systems Modeling

Credits: 3

Descriptive statistics and graphical methods; basic probability; probability distributions; several random variable; Poisson processes; computer simulation of random phenomena; confidence interval estimation; hypothesis testing.

Repeat for Credit
N

Requisites
Prerequisite: MATH 221 and CIS 300.

Typically Offered
Spring

STAT 450 - Special Topics for Undergraduates in Statistics and Data Science

Credits: 1-3

Study of special topics in statistics and data science methods for undergraduates.

Note
Instructor consent

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

STAT 490 - Statistics for Engineers

Credits: 1

First course in statistics with examples and problems toward engineering. Distributions, means, measures of variation, confidence intervals, graphical display of data, simple regression and correlation, philosophy of experimentation.

Note
Must be taken concurrent with a laboratory course in engineering which uses statistics.

Repeat for Credit
N

Typically Offered
Fall, Spring

STAT 491 - Statistics for Engineers II

Credits: 1

A continuation of STAT 490. Offered second half of the semester following STAT 490. Statistical tests, multiple regression, model fitting, simple comparative and factorial experiments. Emphasis on computer analysis of data.

Repeat for Credit
N

Requisites
Prerequisite: STAT 490.

Typically Offered
Fall, Spring

STAT 499 - Honors Project

Credits: 3

Open only to Arts and Science students who are active members of the University Honors Program.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

STAT 510 - Introductory Probability and Statistics I

Credits: 3

Descriptive statistics, probability concepts and laws, sample spaces; random variables; binomial, uniform, normal, and Poisson; two-dimensional variates; expected values; confidence intervals; binomial parameter, median, mean, and variance; testing simple hypotheses using CIs and X^2; goodness of fit. Numerous applications.

Repeat for Credit
N

Requisites
Prerequisite: MATH 221.

Typically Offered
Fall, Spring

K-State 8
Empirical and Quantitative Reasoning

STAT 511 - Introductory Probability and Statistics II

Credits: 3

Law of Large Numbers, Chebycheff's Inequality; continuation of study of continuous variates; uniform, exponential, gamma, and beta distribution; Central Limit Theorem; distributions from normal sampling; introduction to statistical inference.

Repeat for Credit
N

Requisites
Prerequisite: STAT 510.

Typically Offered
Spring

K-State 8
Empirical and Quantitative Reasoning

STAT 610 - Introduction to Mathematical Statistics I

Credits: 3

Development of axiomatic probability; univariate and multivariate random variables and their probability distribution functions; conditional distributions and independent random variables; methods of transformation

for distributions of functions of random variables; convergence in distribution and probability.

Repeat for Credit
N

Requisites
Prerequisite: MATH 222.

Typically Offered
Fall

STAT 611 - Introduction to Mathematical Statistics II

Credits: 3

Estimation of probability distribution parameters by maximum likelihood, Bayesian and bootstrap methods; minimum variance unbiased estimation based on sufficient statistics; mean squared error and consistency of estimators; confidence interval estimation; statistical tests of hypotheses by likelihood ratios; most powerful tests; distribution-free inference; applications to regression models and categorical data.

Repeat for Credit
N

Requisites
Prerequisite: STAT 610.

Typically Offered
Spring

STAT 701 - Fundamental Methods of Biostatistics

Credits: 3

A course emphasizing concepts and practice of statistical data analysis for the health sciences. Basic techniques of descriptive and inferential statistical methods applied to health related surveys and designed experiments. Populations and samples, parameters and statistics; sampling distributions for hypothesis testing and confidence intervals for means and proportions involving one sample, paired samples and multiple independent samples; odds ratios, risk ratios, simple linear regression. Use of statistical software to facilitate the collection, manipulation, analysis and interpretation of health related data.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

Cross-listed
MPH 701

STAT 703 - Introduction to Statistical Methods for the Sciences

Credits: 3

Statistical concepts and methods applied to experimental and survey research in the sciences; tests of hypotheses, parametric and rank tests; point estimation and confidence intervals; linear regression; correlation; one-way analysis of variance; contingency tables, chi-square tests.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing and equivalent of college algebra.

Typically Offered
Fall, Spring, Summer

STAT 705 - Regression and Analysis of Variance

Credits: 3

Simple and multiple linear regression, analysis of covariance, correlation analysis, one-, two- and three-way analysis of variance; multiple comparisons; applications including use of computers; blocking and random effects.

Repeat for Credit
N

Requisites
Prerequisite: One previous statistics course.

Typically Offered
Fall, Spring, Summer

STAT 706 - Basic Elements of Statistical Theory

Credits: 3

The mathematical representation of frequency distributions, their properties, and the theory of estimation and hypothesis testing. Elementary mathematical functions are used to illustrate theory.

Repeat for Credit
N

Requisites
Prerequisite: MATH 205, MATH 210 or MATH 220 and STAT 225 or equivalent.

Typically Offered
Fall

STAT 710 - Sample Survey Methods

Credits: 3

Design, conduct, and interpretation of sample surveys.

Repeat for Credit
N

Requisites
Prerequisite: STAT 510 or STAT 770.

Typically Offered
Fall-Even Years

STAT 713 - Applied Linear Statistical Models

Credits: 3

Matrix-based, applied linear regression procedures at a mathematical level appropriate for a first-year graduate statistics major. Topics include basic methodological development for simple and multiple linear regression, model building and diagnostics, analysis of variance/covariance and multiple comparison methods. Other topics from ANOVA modeling may also be covered if time permits.

Note
A student may not receive graduate credit for both STAT 705 and STAT 713.

Repeat for Credit
N

Requisites
Prerequisite: MATH 515/551 or an equivalent course and one prior course in statistics.

Typically Offered
Fall

STAT 716 - Nonparametric Statistics

Credits: 3

Hypothesis testing when form of population sampled is unknown: rank, sign, chi-square, and slippage tests; Kolmogorov and Smirnov type tests; confidence intervals and bands.

Repeat for Credit
N

Requisites
Prerequisite: STAT 705 or STAT 713.

Typically Offered
Fall-Odd Years

STAT 717 - Categorical Data Analysis

Credits: 3

Analysis of categorical count and proportion data. Topics include tests of association in two-way tables; measures of association; Cochran-Mantel-Haenzel tests for 3-way tables; generalized linear models; logistic regression; loglinear models.

Repeat for Credit
N

Requisites
Prerequisite: STAT 705 or STAT 713.

Typically Offered
Spring

STAT 720 - Design of Experiments

Credits: 3

Planning experiments so as to minimize error variance and avoid bias; Latin squares; split-plot designs; switch-back or reversal designs; incomplete block designs; efficiency.

Repeat for Credit
N

Requisites
Prerequisite: STAT 705 or STAT 713.

Typically Offered
Spring, Summer

STAT 722 - Experimental Designs for Product Development and Quality Improvement

Credits: 3

A study of statistically designed experiments which have proven useful in product development and process improvement. Topics include randomization, blocking, factorial treatment structures, factional factorial designs, screening designs, and response surface methods.

Repeat for Credit
N

Requisites
Prerequisite: STAT 705 or STAT 511 or STAT 713.

Typically Offered
Fall

STAT 725 - Introduction to the SAS Computing

Credits: 1

Topics may include basic environment and syntax, reading and importing data from files, writing and exporting data to files, data manipulation, basic graphics, and built-in and user-defined functions.

Repeat for Credit
N

Requisites
Prerequisite: One prior course in Statistics.

Typically Offered
Fall

STAT 726 - Introduction to R Computing

Credits: 1

Topics may include basic environment and syntax, reading and importing data from files, data manipulation, basic graphics, and built-in and user-defined functions.

Repeat for Credit
N

Requisites
Prerequisite: One prior level course in Statistics.

Typically Offered
Fall

STAT 727 - Statistical Computing/Numerical Methods of Statistics

Credits: 3

Topics may include efficient programming techniques, generating data from non-standard distributions, designing simulation studies, resampling methods, creating and using functions and subroutines, parallel computing in statistics, interfacing lower-level languages (e.g., C, C++, Fortran) with data analysis software (e.g., SAS, R), computational complexity, convergence analysis of algorithms.

Repeat for Credit
N

Requisites
Prerequisite: STAT 726 and STAT 771 or STAT 511.

Typically Offered
Spring

STAT 730 - Multivariate Statistical Methods

Credits: 3

Multivariate analysis of variance and covariance; classification and discrimination; principal components and introductory factor analysis; canonical correlation; digital computing procedures applied to data from natural and social sciences.

Repeat for Credit
N

Requisites
Prerequisite: STAT 705 or STAT 713.

Typically Offered
Spring

STAT 736 - Bioassay

Credits: 2

Direct assays; quantitative dose-response models; parallel line assays; slope ratio assays; experimental designs for bioassay; covariance adjustment; weighted estimates; assays based on quantal responses.

Note
Meets four times a week during second half of semester.

Repeat for Credit
N

Requisites
Prerequisite: STAT 705 or STAT 713.

Typically Offered
Spring-Odd Years

STAT 745 - Statistical Graphics

Credits: 3

Visual display of quantitative information. Statistical graphics topics to include visual perception, basic graphics construction, quantitative univariate to multivariate statistical graphics, trellis displays, introduction to smoothing and graphics, introduction to density estimation and graphics, and categorical graphics. Modern graphics software will be used.

Repeat for Credit
N

Requisites
Prerequisite: STAT 705 or equivalent.

Typically Offered
Spring-Even Years

STAT 750 - Studies in Probability and Statistics

Credits: 1-4

Studies of topics in probability, statistics, experimental design, stochastic processes, or other topics.

Note
Instructor consent

Repeat for Credit
Y

Typically Offered
On sufficient demand

STAT 760 - Optimization for Data Science

Credits: 3

The class presents the theory and algorithms for linear and nonlinear optimization problems with continuous variables. Topics covered include convex analysis, first- and second-order optimality methods, duality, KKT conditions, algorithms for unconstrained optimization, linearly and nonlinearly constrained problems, and convergence rates of algorithms. The theory and algorithms are applied to data science problems arising in machine learning, statistics, and related fields (e.g., maximizing likelihood and penalized likelihood functions, MM algorithms, EM algorithms, model selection, Sparse PCA). Students are expected to be comfortable with rigorous mathematical arguments.

Repeat for Credit
N

Requisites
Prerequisite: STAT 511 or STAT 771, and prior knowledge of linear algebra and matrix theory e.g., MATH 551, and some programming knowledge e.g., STAT 726.

Typically Offered
Spring-Even Years

STAT 761 - Discrete Optimization and Scalability for Data Science

Credits: 3

Topics covered include computational complexity, NP-hardness, data as networks, graph theoretic algorithms, exact, approximation, heuristic and online algorithms, and connections between convex and non-convex optimization problems. The theory and algorithms are applied to data science problems arising in statistical machine learning, statistical clustering, design of experiments, observational studies, sampling, and variable selection. Applications may be motivated using data from social networks, search engines, the stock market and elections.

Repeat for Credit
N

Requisites
Prerequisites: STAT 705 or STAT 713 and STAT 720 and programming knowledge e.g. STAT 726.

Typically Offered
Spring-Odd Years

STAT 764 - Applied Spatio-Temporal Statistics

Credits: 3

Construction and analysis of spatial, time-series, and spatio-temporal data sets. Topics include data generation using geographic information systems, exploratory data analysis and visualization, and descriptive and dynamic spatio-temporal statistical models. For context, a focus will be on biological or ecological data.

Repeat for Credit
N

Requisites
Prerequisites: STAT 510 or STAT 770, and STAT 705, or STAT 713, and STAT 726 or equivalent.

Typically Offered
Spring-Even Years

STAT 766 - Applied Data Mining/Machine Learning and Predictive Analytics

Credits: 3

Addresses the complete process of building analytical tools suitable for learning from data, including automatic online data collection, feature extraction, supervised and unsupervised statistical machine learning methods, evaluation, and report writing. Automatic retrieval of various format online data, including JSON, REST, and Streaming API, http(s), html, xml, and databases. Statistical text processing/mining, state of the art supervised and unsupervised data mining methods, case studies and applications to business, government,social and news media data. Methods include regularized linear and logistic regression, classification trees, nearest neighbor methods, support vector machines, naive Bayes, random forests, boosting/bagging/AdaBoost, clustering, latent Dirichlet allocation, network analysis, and topic modeling models.

Repeat for Credit
N

Requisites
Prerequisites: STAT 705 or STAT 713 or STAT 717, and prior computer programming proficiency on C, C++, Fortran, R, or Python e.g., CIS 209, STAT 726.

Typically Offered
Fall

STAT 768 - Applied Bayesian Modeling and Prediction

Credits: 3

Bayes rule, principles of Bayesian inference, Bayesian perspective on statistical models, posterior distribution computations using simulations, Markov Chain Monte Carlo (MCMC) (including Gibbs sampling, Metropolis-Hastings algorithm, slice sampler, hybrid forms and alternative algorithms), convergence monitoring and diagnosis, hierarchical models, model checking and model selection, and applications in the sciences using computer software such as R and WinBUGS.

Repeat for Credit
N

Requisites
Prerequisites: STAT 705 or STAT 713, and STAT 510 or STAT 770.

Typically Offered
Spring-Odd Years

STAT 770 - Theory of Statistics I

Credits: 3

Introduction to probability theory, random variables, transformations of random variables, expectations, discrete and continuous distributions, moment generating functions, families of distributions, multivariate random variables, joint and marginal distributions, conditional distributions and independence, sampling distributions of normal populations, order statistics, convergence of random variables, and the central limit theorem.

Repeat for Credit
N

Requisites
Prerequisite: MATH 222.

Typically Offered
Fall

STAT 771 - Theory of Statistics II

Credits: 3

Introduction to the sufficiency principle, the likelihood principle, point estimation, uniformly minimum-variance unbiased estimators, hypothesis testing, uniformly most powerful tests, interval estimation, and asymptotic evaluations of estimators and tests.

Repeat for Credit
N

Requisites
Prerequisite: STAT 770.

Typically Offered
Spring

STAT 799 - Topics in Statistics

Credits: 0-3

Topics in Statistics

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

STAT 810 - Seminar in Probability and Statistics

Credits: 1

Discussion and lectures on topics in probability and statistics; one seminar talk by each student registered for credit.

Repeat for Credit
Y

Requisites
Prerequisite: Graduate standing and at least two graduate courses in statistics.

Typically Offered
Fall, Spring

STAT 818 - Theory of Life-Data Analysis

Credits: 3

A study of models and inferential procedures important to life-data analysis. Comparison of estimators (MLE, BLUE, etc.). Pivotal quantities. Design and regression models for non-normal distributions. Analysis of censored data.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 771 and STAT 705 or STAT 713.

Typically Offered
Fall-Even Years

STAT 842 - Probability for Statistical Inference

Credits: 3

Probability spaces and random elements, distributions, generating and characteristic functions, conditional expectation, convergence modes and stochastic orders, continuous mapping theorems, central limit theory and accuracy, laws of large numbers, asymptotic expansions for approximating functions of random variables and distributions.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 770 and STAT 771, or equivalent; MATH 633 or equivalent, or concurrent enrollment in MATH 633.

Typically Offered
Fall

STAT 843 - Statistical Inference

Credits: 3

Distributions (commonly used univariate and multivariate distributions, including exponential families of distributions and properties), order statistics and distributional properties, (asymptotic) unbiased estimation and the

information inequality, likelihood inference for parametric statistical models (including the multi-parameter case, regular and non-regular cases), confidence sets, functional parameters and statistical functional, density estimation and nonparametric function estimation, permutation methods.

Repeat for Credit
N

Requisites
Prerequisite: STAT 842; MATH 634 or equivalent, or concurrent enrollment in MATH 634.

Typically Offered
Spring

STAT 850 - Stochastic Processes

Credits: 3

Normal processes and covariance stationary processes; Poisson processes; renewal counting processes; Markov chains; Brownian motion; applications to science and engineering.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 770.

Typically Offered
Spring-Even Years

STAT 860 - Linear Models I

Credits: 3

Subspaces, projections, and generalized inverses; multivariate normal distribution, distribution of quadratic forms; optimal estimation and hypothesis testing procedures for the general linear model; application to regression models, correlation model.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 713, STAT 771.

Typically Offered
Fall

STAT 861 - Linear Models II

Credits: 3

Continued application of optimal inference procedures for the general linear model to multifactor analysis of variance, experimental design models, analysis of covariance, split-plot models, repeated measures models, mixed models, and variance component models; multiple comparison procedures.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 860.

Typically Offered
Spring

STAT 870 - Analysis of Messy Data

Credits: 3

Design structures; treatment structures; equal and unequal variances; multiple comparisons; unequal subclass numbers; missing cells; interpretation of interaction; variance components; mixed models; split-plot and repeated measures; analysis of covariance; cross-over designs.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 720.

Typically Offered
Fall

STAT 880 - Time Series Analysis

Credits: 3

Autocorrelation function; spectral density; autoregressive integrated moving average processes; seasonal time series; transfer function model; intervention analysis; regression model with time series error.

Repeat for Credit
Y

Requisites

Prerequisite: STAT 713 and STAT 771.

Typically Offered
Fall-Odd Years

STAT 898 - Master's Report

Credits: 2

Master's Report

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

STAT 899 - Master's Thesis Research

Credits: 1-18

Master's Thesis Research

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

STAT 903 - Statistical Methods for Spatial Data

Credits: 3

Theoretical development of modeling and inference techniques for spatially and/or temporally referenced data, including geostatistical data, lattice data and spatial point patterns; methodology for autocorrelation estimation and prediction; nonstationary spatial processes; asymptotics and computational methods for large spatial datasets; computer-aided applications.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 771, plus one introductory course in statistical computing (e.g. STAT 726 or equivalent background).

Typically Offered
Spring-Odd Years

STAT 904 - Resampling Methods

Credits: 3

Theoretical development of resampling procedures, including parametric and nonparametric bootstrap, jackknife, randomization and permutation methods; expansion theory for bootstrap inference; implementation of resampling procedures via statistical computational tools.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 713, STAT 771.

Typically Offered
Spring-Even Years

STAT 905 - High-Dimensional Data and Statistical Learning

Credits: 3

Theoretical framework of statistical methods for the analysis of large-scale data with the aim of understanding data mining, supervised and unsupervised statistical learning techniques from a statistical decision theoretic framework. Methods for model selection, dimensionality reduction, multiple testing control, and estimation in high-dimension data. Emphasis on the conceptual underpinning of different tools for analysis of large-scale data and how they relate to each other. Applications in various fields, including the sciences and engineering, using computer software.

Repeat for Credit
N

Requisites
Prerequisite: (STAT 713 and STAT 771), or (STAT 727 and STAT 760).

Typically Offered
Fall-Even Years

STAT 907 - Bayesian Statistical Inference

Credits: 3

Principles of Bayesian estimation, testing and prediction; Bayes factors and posterior probabilities of hypotheses; hierarchical modeling; Bayesian model selection and assessment; Bayesian computation and asymptotics; nonparametric Bayesian models.

Repeat for Credit
N

Requisites
Prerequisite: STAT 713 and STAT 771, plus one introductory course in statistical computing (e.g. STAT 725 or STAT 726 or equivalent background).

Typically Offered
Fall-Odd Years

STAT 920 - Experimental Design Theory

Credits: 3

Incomplete block designs; theory of the construction and analysis of experimental designs.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 720 and STAT 861.

Typically Offered
Spring-Odd Years

STAT 930 - Theory of Multivariate Analysis

Credits: 3

The multivariate normal distribution, the Wishart distribution, Jacobians of vector and matrix transformations, Hotelling's T2statistic, the union-intersection principle, tests on mean vectors and covariance matrices, Box's approximations to critical points, the multivariate general linear model, discriminant analysis, and principal component analysis.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 730 and STAT 861.

Typically Offered
Spring-Even Years

STAT 940 - Advanced Statistical Methods

Credits: 3

Generalized linear models and generalized mixed models. Statistical models based on the exponential family of distributions. Applications to non-normal and discrete data, including binary, Poisson and gamma regression, and log-linear models. Topics include likelihood-based estimation and testing, model-fitting, residual analyses, over-dispersed models, quasi-likelihood, large sample properties, and the use of computer packages. Also, methods for longitudinal repeated measures data that will include inference for continuous and discrete data. Inferential objectives include prediction of response and estimation of correlation/covariance structures. Nonparametric and semiparametric methods covered as time permits.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 861, plus one introductory course in statistical computing (e.g. STAT 725 or STAT 726 or equivalent background).

Typically Offered
Fall-Even Years

STAT 941 - Advanced Statistical Inference

Credits: 3

Foundations and methods of modern statistical inference including asymptotic theory in parametric models (including local asymptotic normality and contiguity), efficiency of estimators and tests, Bayes procedures, rank, sign and permutation statistics, U-,M-, L-, R-estimates, chi-square tests, empirical processes and the functional delta method, quantiles and order statistics, inference for nonparametric and semi-parametric models.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 843.

Typically Offered
Spring-Even Years

STAT 945 - Problems in Statistical Consulting

Credits: 1-3

Principles and practices of statistical consulting. Supervised experience in consultation and consequent research concerning applied statistics and probability associated with on-campus investigations.

Repeat for Credit
Y

Requisites
Prerequisite: STAT 720 and instructor consent

Typically Offered
On sufficient demand

STAT 950 - Advanced Studies in Probability and Statistics

Credits: 1-3

Theoretical studies of advanced topics in probability, decision theory, Markov processes, experimental design, stochastic processes, or advanced topics.

Note
Instructor consent

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

STAT 999 - Research in Statistics

Credits: 1-18

Research in Statistics

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

STRAN 400 - Transforming Society

Credits: 3

Examines a range of social concepts such as race, ethnicity, indigeneity, gender, sex, sexuality, class, disability, citizenship, nation, coloniality, and global location from the perspective of Social Transformation Studies.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Human Diversity within the U.S.
Ethical Reasoning and Responsibility

STRAN 550 - Practicing Social Justice

Credits: 3

Students apply their classroom learning by engaging in a community-based social justice project. Students will work with an organization, program, or creative movement that engages and supports underrepresented and/or historically marginalized communities.

Repeat for Credit
N

Requisites
Prerequisite: AMETH 160 OR GWSS 105.

Typically Offered
Fall, Spring, Summer

K-State 8
Human Diversity within the U.S.
Social Sciences

STRAN 600 - Pathways to Social Change

Credits: 3

An advanced seminar in which students design and launch a research-based social transformation project on a topic and in a form of their choosing.

Repeat for Credit
N

Requisites
Prerequisite: junior or senior standing.

Typically Offered
Spring

SWAH 101 - Swahili I

Credits: 4

Introduction to Swahili. A foundation in listening, speaking, writing, and reading the basic grammatical structures and vocabulary of Swahili. Aspects of Swahili/African culture will be introduced and highlighted as essential components toward achieving communicative competence.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

SWAH 102 - Swahili II

Credits: 4

A continuation of Swahili 101. A foundation in listening, speaking, writing, and reading the basic grammatical structures and vocabulary of Swahili. Aspects of Swahili/African culture will be introduced and highlighted as essential components toward achieving communicative competence.

Repeat for Credit
N

Requisites
Prerequisite: SWAH 101 or equivalent.

Typically Offered
Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

SWAH 201 - Swahili III

Credits: 4

Continuation of Swahili II. Further development of functional skills. Intensive practice of spoken and written Swahili.

Repeat for Credit
N

Requisites
Prerequisite: SWAH 102.

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Global Issues and Perspectives

SWAH 202 - Swahili IV

Credits: 4

Continuation of Swahili III. Further development of functional skills. Intensive practice of spoken and written Swahili.

Repeat for Credit
N

Requisites
Prerequisite: SWAH 201.

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8

Aesthetic Interpretation
Global Issues and Perspectives

THTRE 111 - Production Participation

Credits: 1

Provide students with practical experience when working on a theatre production. Students must choose and complete one production assignment to earn 1 credit hour. This course is available for both Theatre majors and non-majors.

Repeat for Credit
Y

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

THTRE 171 - Fundamentals of Acting

Credits: 3

Theory and practice of fundamental skills and techniques of acting. Major emphasis is on freeing and training the individual's imagination, intellect, body, and voice through designed exercise and performed scenes.

Note
Three hours recitation per week.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Ethical Reasoning and Responsibility

THTRE 201 - Drugs and Alcohol in Theatre and Film

Credits: 3

Exploration of alcohol and drug use as depicted on stage and in film.

Repeat for Credit
N

Typically Offered
Fall or Spring

K-State Core
6 Arts and Humanities

THTRE 202 - Taboo! Transgression and Censorship in Theatre and Film

Credits: 3

An examination of the cultural controversies surrounding theatrical and cinematic productions.

Repeat for Credit
N

Typically Offered
Fall or Spring

K-State Core
6 Arts and Humanities

THTRE 203 - Stage to Screen: Theatre into Film

Credits: 3

Explores the adaptation of theatrical works into motion pictures.

Repeat for Credit
N

Typically Offered
Fall or Spring

K-State Core
6 Arts and Humanities

THTRE 205 - Contemporary American Theatre

Credits: 3

Investigation of contemporary American work of dramatic literature and Theatre from the 1990s to the present.

Repeat for Credit
N

Typically Offered
Fall or Spring

K-State Core
6 Arts and Humanities

THTRE 211 - Run Crew

Credits: 0-2

Work on run crew (sets, props, light or sound board) for theatrical production.

Repeat for Credit
Y

Requisites
Prerequisite: concurrently enrolled with THTRE 369.
Corequisite: THTRE 369.

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

THTRE 212 - Wardrobe Crew

Credits: 1

Work on wardrobe crew for a theatrical production.

Repeat for Credit
N

Requisites
Corequisite: THTRE 368 or may be taken alone.

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

THTRE 220 - Musical Theatre History

Credits: 3

Surveys the history of musical theatre.

Repeat for Credit
N

Typically Offered
Fall or Spring

K-State Core
6 Arts and Humanities

THTRE 235 - Introduction to the Art of Film

Credits: 3

Survey of Cinema, including history, analysis and the process of production. Will include film screenings outside of regular class meetings.

Repeat for Credit
N

Typically Offered
Spring, Summer

K-State Core
6 Arts and Humanities

THTRE 260 - Stage Movement

Credits: 3

A study of the technique of stage movement and an investigation of the language of gesture.

Repeat for Credit
N

Typically Offered
Other

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

THTRE 263 - Oral Interpretation of Literature

Credits: 3

Techniques of reading from the printed page, selecting portions from various forms of literature, including narrative poetry, essay, lyric, sonnet, nonfictional prose, scenes from plays, and selected short stories.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

THTRE 265 - Fundamentals of Improvisation I, II

Credits: 3

Introduction to the techniques of improvisation with the emphasis upon practical participation.

Repeat for Credit
N

Typically Offered
Other

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

THTRE 268 - Techniques of Makeup

Credits: 1

Techniques of makeup for the stage.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

THTRE 269 - Fundamentals of Technical Production

Credits: 3

Basic techniques, equipment and materials used in scenery construction and theatrical drafting.

Repeat for Credit
N

Typically Offered
Fall

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

THTRE 270 - Introduction to Theatre

Credits: 3

A comprehensive introduction to theatre: basic elements of theatre and theatre production, theatre history, dramatic literature, multicultural theatre traditions and perspectives, and the theatre experience.

Repeat for Credit
N

Typically Offered
Other

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Historical Perspectives

THTRE 271 - Intermediate Acting

Credits: 3

Emphasis upon expanding the actor's capabilities through more advanced scene work and character study.

Repeat for Credit
N

Typically Offered

Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation
Ethical Reasoning and Responsibility

THTRE 280 - Script Analysis

Credits: 3

Examination of the play script to develop a common vocabulary and method for analyzing a script.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

THTRE 299 - Vocal Expression for Actors

Credits: 3

Study and application of vocal techniques for stage productions; emphasis on development of the actor's vocal mechanism.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State Core
6 Arts and Humanities

K-State 8
Aesthetic Interpretation

THTRE 344 - Storytelling

Credits: 2

Techniques of storytelling to people of all ages. History and cultural importance of storytelling. Fictional and personal storytelling will be covered.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

THTRE 364 - Scene Painting

Credits: 3

Practical application of painting techniques for the stage.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

THTRE 366 - Fundamentals of Theatre Management

Credits: 3

Non-profit theatre management, including budgeting, marketing, box office, and development practices, plus examination of relevant history.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Empirical and Quantitative Reasoning

THTRE 369 - Fundamentals of Theatrical Design

Credits: 3

An exploration of the four areas of stage design: sets,

lights, costumes, and sound. Includes examination of relevant history and technology in these areas. Emphasis is on the design process and design development.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

THTRE 475 - Opera Workshop

Credits: 1-6

Principles and techniques of operatic and musical theatre production, with emphasis on class rehearsal and performance of selected scenes from opera and musical drama; brief survey of the history of opera.

Note
Offered jointly by the Department of Communication Studies and School of Music, Theatre and Dance.

Repeat for Credit
N

Typically Offered
Other

Cross-listed
MUSIC 475

K-State 8
Aesthetic Interpretation

THTRE 499 - Honors Project

Credits: 3

Honors Project

Note
Open only to Arts & Sciences students who are active members of the University Honors Program.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

THTRE 503 - Theatre for Young Audiences (TYA) in Production

Credits: 3

Students will gain insight into the philosophies, practicalities, and processes of developing and producing Theatre for Young Audiences (TYA).

Repeat for Credit
Y

Typically Offered
Fall or Spring

THTRE 504 - Stage Combat

Credits: 3

Focuses on specific stage combat disciplines and techniques.

Repeat for Credit
Y

Requisites
Prerequisite: Theatre 261

Typically Offered
Fall or Spring

THTRE 552 - Sound Design

Credits: 3

Introduces the student to the fundamental processes involved in Sound Design.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

THTRE 560 - Advanced Stage Movement

Credits: 3

Study in the physical development of character and advanced techniques of stage movement.

Repeat for Credit

Y

Typically Offered
Other

K-State 8
Aesthetic Interpretation

THTRE 563 - Stage Management

Credits: 3

Theory and practice of stage management in the professional and nonprofessional theatre. Emphasis is on the organization of all areas of theatre knowledge needed for the running of theatrical productions.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

THTRE 565 - Principles of Directing

Credits: 3

Principles, processes and techniques of directing for the theatre.

Repeat for Credit
N

Requisites
Prerequisite: THTRE 171.

Typically Offered
Other

K-State 8
Aesthetic Interpretation

THTRE 566 - Rehearsal Techniques

Credits: 0-12

A laboratory course for students enrolled in performance and production classes.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

THTRE 567 - Costume Design

Credits: 3

Introduction to the theory and practice of costume design for stage.

Repeat for Credit
N

Requisites
Prerequisite: THTRE 367.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

THTRE 568 - Scene Design

Credits: 3

Examination of the role of scene design in theatre, principles and techniques of design. Development, presentation, and synthesis of design images with the scripted play.

Repeat for Credit
N

Requisites
Prerequisite: THTRE 368 and THTRE 369.

Typically Offered
Other

K-State 8
Aesthetic Interpretation

THTRE 569 - Advanced Technical Production

Credits: 3

Independent study in advanced technical theatre problems.

Repeat for Credit
N

Requisites
Prerequisite: THTRE 368.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation

THTRE 572 - History of Theatre I

Credits: 3

A survey of the development of the theatre from ancient times to 1700.

Repeat for Credit
N

Requisites
Prerequisite: THTRE 370.

Typically Offered
Spring

K-State 8
Historical Perspectives

THTRE 573 - History of Theatre II

Credits: 3

A survey of the development of the theatre from 1700 to the present.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing or consent of instructor.

Typically Offered
Fall

K-State 8
Historical Perspectives

THTRE 575 - Darmaturgy

Credits: 3

An introduction to the theory and practice of dramaturgy, including a survey of contemporary critical theories as they apply to the work of the dramaturg.

Repeat for Credit
N

Requisites
Prerequisite: THTRE 270

Typically Offered
Fall or Spring

THTRE 579 - Lighting Design

Credits: 3

Theory and practice of theatrical lighting design, control systems, projection equipment, and lighting consulting. Production work with KSU Theatre season required.

Repeat for Credit
N

Typically Offered
Spring

THTRE 580 - Music Theatre Workshop

Credits: 0-1

Principles and techniques of musical theatre production with emphasis on rehearsal and performance of selected scenes from musical theatre. Dance, music, and theatre are studied as integrated elements within the musical theatre genre. Culminates in a public performance.

Note
Course may be repeated twice for credit.

Repeat for Credit
Y

Requisites
Prerequisite: two semesters of voice; THTRE 171; and DANCE 280; or consent of instructor.

Typically Offered
Spring

THTRE 599 - Senior Seminar

Credits: 3

Students in their final year of study will develop skills for professional presentation and create a portfolio or audition based on the standards developed for the URTA National Unified Auditions/Interviews.

Repeat for Credit
N

Typically Offered
Fall, Spring

THTRE 610 - Internship In Theatre

Credits: 0-6

Supervised participation in an internship at a professional theatre.

Repeat for Credit
Y

Requisites
Prerequisite: THTRE 171 or THTRE 368; junior standing and consent of supervising faculty member and approval of faculty.

Typically Offered
Fall, Spring, Summer

THTRE 630 - Topics in Theatre

Credits: 1-4

Selected topics in theatre.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing and consent of instructor.

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

THTRE 661 - Professional Development

Credits: 1

Study of audition techniques including supervised preparation of appropriate material. Business aspects of professional theatre, including unions, contracts, and professional ethics.

Repeat for Credit
N

Requisites
Prerequisite: 12 hours in theatre, music, and/or dance.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation

THTRE 662 - Playwriting

Credits: 3

Theoretical study and practical application of techniques of playwriting with regard to plot, characters, and production; emphasis on the one-act form.

Repeat for Credit
N

Typically Offered
Other

Cross-listed
ENGL 662

K-State 8
Aesthetic Interpretation

THTRE 663 - Solo Performance

Credits: 3

Students create their own solo performance piece through developing and rehearsing a script. Students will create drafts, conduct rehearsals, and culminate with a final performance of their own work.

Repeat for Credit
Y

Typically Offered
Fall or Spring

THTRE 664 - Creative Drama

Credits: 3

The development of creative imagination and personal well-being through theatre games, improvisation, storytelling, and puppetry for use in educational and recreational settings.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Other

K-State 8
Aesthetic Interpretation

THTRE 665 - Drama Therapy with Special Populations

Credits: 3

The therapeutic uses of drama in the development of creative imagination, self expression, and social relatedness with special populations such as clients who have developmental disabilities, physical disabilities, health issues, or are aging.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall, Spring

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

THTRE 667 - Period Styles for the Theatre 1

Credits: 3

Survey of historical styles of architecture, furnishings, and clothing in relation to theatrical design and the history of the theatre from the Greeks to 1800.

Repeat for Credit
N

Requisites
Prerequisite: THTRE 572 or concurrent enrollment.

Typically Offered
Spring

K-State 8
Aesthetic Interpretation
Historical Perspectives

THTRE 668 - Period Styles for the Theatre 2

Credits: 3

Survey of historical styles of architecture, furnishings, and clothing in relation to theatrical design and the history of the theatre from 1800 to present.

Repeat for Credit
N

Requisites
Prerequisite: THTRE 573 or concurrent enrollment.

Typically Offered
Fall

K-State 8
Aesthetic Interpretation
Historical Perspectives

THTRE 670 - Playback Theatre

Credits: 1-3

Improvisational theatre form in which actors listen to stories told by audience and improvisationally act the story out. Students will learn playback acting forms and how to conduct a session. Playback is often used as a technique by drama therapists in performance and in therapy sessions.

Note
1-3 units per offering with a limit of 6 credit hours taken total.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Aesthetic Interpretation

THTRE 672 - American Ethnic Theatre

Credits: 3

Drama and stagecraft of ethnic groups in the United States, including the theatre of African, Asian, Hispanic, Jewish, and Native Americans.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Other

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

THTRE 673 - Theatre for Conflict Resolution

Credits: 3

Drama and theatre techniques used to explore the nature of conflict and how to promote collaboration through action.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Summer

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

THTRE 674 - Drama Therapy with Adolescents

Credits: 3

The therapeutic uses of drama with adolescents, including normal development, youth-at-risk, ESL, SED, and BD adolescents.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Summer

K-State 8
Aesthetic Interpretation

THTRE 675 - Drama Therapy with Older Adults

Credits: 1-3

The therapeutic uses of drama with older adults, focusing on the development of life review, social relatedness, and creative self-expression in the here and now.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Summer

K-State 8
Aesthetic Interpretation
Human Diversity within the U.S.

THTRE 710 - Practicum in Theatre

Credits: 0-6

Supervised participation in a position of major responsibility.

Repeat for Credit
Y

Requisites
Prerequisite: THTRE 160 or THTRE 171 or THTRE 368; junior standing; consent of supervising faculty member and approval of faculty members are required.

Typically Offered
Other

THTRE 711 - Topics in Technical Theatre

Credits: 3

Selected topics in creative techniques and investigation for technical theatre.

Repeat for Credit
Y

Requisites
Prerequisite: THTRE 269 and consent of instructor.

Typically Offered
Other

THTRE 712 - Theatre Management

Credits: 3

Theatre management, promotion, finance, organization; emphasis on contract negotiations and use of facilities.

Repeat for Credit
N

Typically Offered
Other

THTRE 761 - Advanced Acting: Decolonizing the Classics

Credits: 3

This acting class will examine classic plays (Greek Shakespeare, Moliere, Ibsen etc.) and reinvent scenes to better address contemporary themes towards diversity, inclusion, and equity.

Repeat for Credit
Y

Requisites
Prerequisite: THTRE 271 and consent of instructor.

Typically Offered
Other

THTRE 762 - Advanced Playwriting

Credits: 3

Further study in the writing of drama; emphasis on problems of writing the full-length play.

Repeat for Credit
Y

Requisites
Prerequisite: THTRE 662.

Typically Offered
Other

Cross-listed
ENGL 762

THTRE 763 - Advanced Acting: Consent and Intimacy in Performance

Credits: 3

An in-depth examination and practice in consent and intimacy in performance. Work will cover the language, process and best practices of Intimacy Direction and Coordination.

Repeat for Credit
N

Typically Offered
Fall or Spring

THTRE 765 - Practice in Directing

Credits: 3

A lecture-lab course with emphasis on directing dramatic productions under performance conditions.

Note
Consent of instructor

Repeat for Credit
Y

Typically Offered
Other

THTRE 780 - Theatrical Design Studio

Credits: 0-3

Advanced problems in conceptualization and realization of design, including sets, costumes, lights and technical production. Emphasis on advanced techniques in research, analysis, and production problems.

Repeat for Credit
Y

Requisites
Prerequisite: THTRE 567, THTRE 568, THTRE 569, or THTRE 579.

Typically Offered
Fall, Spring

THTRE 782 - Women in Theatre

Credits: 3

A history of the contributions made by women in theatre as playwrights, managers, directors, and performers; contemporary women in theatre and their experiments in expressing women's consciousness.

Repeat for Credit
N

Typically Offered
Other

THTRE 783 - Practice in Acting

Credits: 3

Advanced studies in characterization with emphasis on communicating with the director. Taught in conjunction with the Practice in Directing workshop.

Repeat for Credit
Y

Requisites
Prerequisite: THTRE 271 and consent of instructor.

Typically Offered
Other

THTRE 784 - Psychodrama

Credits: 3

Theory and practice of psychodrama as a treatment modality for use in drama therapy.

Repeat for Credit
N

Typically Offered
Other

THTRE 785 - Sociodrama

Credits: 3

Theory and practice of sociodrama as a therapeutic and educational modality for use in drama therapy.

Repeat for Credit
N

Typically Offered
Other

THTRE 799 - Projects in Theatre

Credits: 1-4

Individual guided work in selected area.

Note
Only 3 hours may be applied to MA.

Repeat for Credit
Y

Requisites
Prerequisite: Junior standing and consent of instructor.

Typically Offered
Fall, Spring

THTRE 800 - Introduction to Graduate Studies in Theatre: Library, Research, and Information Skills

Credits: 1-3

Skills for accessing research tools and resources needed in the age of the internet, along with instruction on citations, literature reviews, and other formatting necessary for graduate research papers.

Repeat for Credit
N

Typically Offered
Other

THTRE 810 - Survey of Research in Drama Therapy

Credits: 3

Basic terminology, concepts, and principles underlying research in drama therapy and the helping fields.

Repeat for Credit
N

Typically Offered
Fall, Spring

THTRE 820 - Principles of Drama Therapy

Credits: 3

Theory, history, and practice in the use of drama as therapy group treatment. Survey of major drama therapy methods.

Repeat for Credit
N

Requisites
Prerequisite: THTRE 664 or 665.

Typically Offered
Other

THTRE 830 - Creative Arts Therapies

Credits: 3

Survey of five creative arts therapy modalities: drama/psychodrama, art, poetry/bibliotherapy, music, and dance/movement. Instruction in theory and hands-on experience with each modality, as well as reading, discussion and methods for using modalities interdisciplinarily.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

THTRE 840 - Play Therapy Practices and Techniques

Credits: 3

The history and philosophy of, and rationale for, using play media in counseling and therapy with children and adults. Directive Play Therapy models will be explored and practiced.

Repeat for Credit
N

Typically Offered
Fall, Spring, Summer

THTRE 862 - Workshop in Playwriting

Credits: 3

Advanced writing of drama.

Repeat for Credit
Y

Requisites
Prerequisite: THTRE 762 or ENGL 762 or proof of equivalence. Proficiency.

Typically Offered
Other

Cross-listed
ENGL 862

THTRE 865 - Ethics and Professionalism in Drama Therapy

Credits: 3

The application of ethical principles involved in the practice of drama therapy in a variety of educational and therapeutic settings.

Repeat for Credit
N

Requisites
Prerequisite: THTRE 820 or THTRE 830.

Typically Offered
Spring, Summer

THTRE 870 - Greek and Roman Theatre

Credits: 3

Studies in the drama and stagecraft of the Greek and

Roman period.

Repeat for Credit
N

Requisites
Prerequisite: THTRE 572.

Typically Offered
Other

THTRE 871 - Medieval and Baroque Theatre

Credits: 3

Studies in the drama and stagecraft of the Medieval and Baroque periods.

Repeat for Credit
N

Requisites
Prerequisite: THTRE 572.

Typically Offered
Other

THTRE 875 - Contemporary Theatre

Credits: 3

Studies in drama and stagecraft since 1968.

Repeat for Credit
N

Requisites
Prerequisite: THTRE 573.

Typically Offered
Other

THTRE 876 - Seminar in Theatre

Credits: 3

Selected topics in theatre research.

Repeat for Credit
Y

Requisites
Prerequisite: THTRE 572 or THTRE 573.

Typically Offered
Other

THTRE 878 - History of the Physical Stage

Credits: 3

A survey course in the emergence and development of the theatre building as a distinct architectural form, with particular emphasis on the effect of the physical environment on the play.

Repeat for Credit
N

Requisites
Prerequisite: THTRE 368.

Typically Offered
Other

THTRE 879 - Modern Theatre

Credits: 3

Studies in the drama and stagecraft of Europe and America in the period from 1870 to the present.

Repeat for Credit
N

Requisites
Prerequisite: THTRE 573.

Typically Offered
Spring-Even Years

THTRE 880 - Master's Project

Credits: 3

Major project undertaken to demonstrate competence in Drama Therapy as required for the Master's Degree.

Repeat for Credit
N

Requisites
Prerequisite: Sixteen hours of graduate credit in theatre.

Typically Offered
Fall, Summer

UAS 114 - Remote Pilot Certification for UAS

Credits: 2

This course helps prepare students to become an FAA-Certified UAS Pilot. This course covers all knowledge topics important for a commercial UAS pilot. Once complete, the student takes the FAA's Remote Pilot in Command knowledge test.

Repeat for Credit
N

Typically Offered
Fall, Spring

UAS 115 - Introduction to Multi-Rotor Flight Lab

Credits: 1

Basic through advanced flight training on multi-rotor uncrewed aircraft. This course establishes the foundation of manual flight, basic automation and features. Proficiency is built through standardized maneuvers to meet practical test standards.

Note
For portions of the course, students are required to travel to an area designated for flight operations.

Repeat for Credit
N

Requisites
Corequisite: UAS 114 or proof of a valid RPIC

Typically Offered
Fall, Spring

UAS 270 - Introduction to UAS

Credits: 3

Introduction to the history of UAS and survey of current UAS platforms, terminology, challenges to airspace integration and operational theory.

Repeat for Credit
N

Typically Offered
Fall, Spring

K-State 8
Ethical Reasoning and Responsibility
Historical Perspectives

UAS 272 - UAS Safety Fundamentals

Credits: 3

Introduction to aviation safety, with an emphasis on best practices for safe operation of unmanned aircraft systems. Topics include safety/risk assessments, human factors, crew resource management, aeronautical decision-making, risk management, and safety assurance.

Repeat for Credit
N

Typically Offered
Fall, Spring

UAS 275 - Small UAS Maintenance I

Credits: 3

This course provides students with the knowledge and skill necessary to repair and maintain both fixed- and rotary-wing aircraft during field operations and to ensure continued airworthiness throughout the service life of the aircraft. Instruction emphasizes safe practices, provide an introduction to basic shop tools and machinery used in maintaining sUAS, and develop fundamental skills in platform fabrication and the troubleshooting/repair of the circuits, subsystems and components typically found on sUAS aircraft.

Note
Studio format incorporating lecture and lab elements.

Repeat for Credit
N

Typically Offered
Spring

UAS 280 - Multi-Rotor Construction Lab

Credits: 2

This course focuses on the construction of a multi-rotor UAS. This includes gaining an understanding of individual components within the system and integrating the components into a fully functional system. Students will

also test and tune the UAS once assembled.

Repeat for Credit
N

Typically Offered
Fall, Spring

UAS 285 - Small Unmanned Aircraft Maintenance II

Credits: 3

This course provides students with advanced knowledge and a high level of skill in the maintenance and repair of both fixed- and rotary-wing unmanned aircraft and associated systems. The concept of continued airworthiness is emphasized. Topics include advanced techniques in the fabrication and repair of small unmanned aircraft systems and airframes, maintenance of ground support systems and principles of electronic and integrated circuit maintenance, troubleshooting and repair.

Note
Studio format incorporating lecture and lab elements.

Repeat for Credit
N

Requisites
Prerequisite: UAS 275.

Typically Offered
Fall

UAS 300 - UAS Powerplant Fundamentals

Credits: 3

A study of the principles of operation, design features, and operating characteristics of various powerplants used in UAS. Includes inspection procedures and operational theory of current electric, piston, hybrid, and turbine propulsion systems.

Note
Two hours lecture and three hours lab per week.

Repeat for Credit
N

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Natural and Physical Sciences

UAS 312 - UAS Flight Instructor Ground School

Credits: 3

Intended to prepare the student for the role of UAS flight instructor. Focuses on the fundamentals of flight instruction. Lecture topics cover the techniques and the procedures necessary to generate, organize and present lessons in instructional environment while building necessary skills and emphasizing aspects of instruction necessary to ensure student competencies in the areas of UAS field and flight operations.

Repeat for Credit
N

Requisites
Prerequisite: UAS 114 &UAS 115.
Corequisite: UAS 314.

Typically Offered
Fall

UAS 314 - Multi-rotor Instructor Flight Lab

Credits: 1

This course refines advanced multi-rotor skills and provides the practical experience necessary to produce competent multi-rotor flight instructors.

Note
Two hours of lab per week. For portions of the course, students are required to travel to an area designated for flight operations.

Repeat for Credit
N

Requisites
Prerequisite: UAS 115
Corequisite: UAS 312 and proof of a valid Remote Pilot in Command (RPIC)

Typically Offered
Fall

UAS 353 - Command and Control Links and Circuitry

Credits: 3

This course provides a detailed examination of the theory and design of UAS command and control (2C) systems and applies this knowledge to develop a thorough understanding of the principles used in the design, maintenance and repair of 2C circuits and subsystem components. Topics include design choices in component selection, circuit and overall system design concepts and troubleshooting.

Note
Studio format incorporating lecture and lab elements.

Repeat for Credit
N

Requisites
Prerequisite: UAS 275 or consent of instructor.

Typically Offered
Fall

UAS 357 - Introduction to UAS Fixed-Wing Flight Lab

Credits: 2

Provides an introduction to the use of an external pilot (EP) console to control fixed-wing UAS. In the event of a lost communications link, avionics or autopilot failure or other emergency, the external pilot is critical to human-in-the-loop operation of the UAS in effecting a successful recovery of the aircraft. This course develops the skills necessary to ensure students are capable of conducting safe EP operation of fixed-wing UAS during adverse flight conditions.

Note
Four hours of lab per week. Students are required to travel to an area designated for flight operations.

Repeat for Credit
N

Requisites
Prerequisite: UAS 314.

Typically Offered
Spring

UAS 367 - Introduction to UAS Automated Fixed-Wing Flight Lab

Credits: 3

This course focuses on developing the pilot's ability to control the UAS via a computer ground control station in the crew role of air vehicle operator (AVO). Students will become proficient in conducting site surveys, building UAS flight plans, contingency planning, emergency procedures, crew resource management, and developing mission briefings. Students will also learn methods for effectively instructing fixed-wing flight operations by developing lesson plans and conducting instructional flights.

Note
Six hours of lab per week plus individual simulator work. Students are required to travel to an area designated for flight operations.

Repeat for Credit
N

Requisites
Prerequisite: UAS 357 and UAS 312.

Typically Offered
Spring

UAS 373 - Small Unmanned Aircraft Design and Construction for Non-Aviators

Credits: 3

Topics include: Unmanned Aircraft System platform, payload and component design and interfacing, system and vehicle maintenance, and systems integration. Intended for non-pilot majors and those without the FAA certifications and ratings required for UAS 370.

Note
Studio format incorporating lecture and lab elements.

Repeat for Credit
N

Requisites
Corequisite: UAS 270.

Typically Offered
Fall

UAS 374 - Processing Remotely Sensed Data

Credits: 3

Students are introduced to basic theory, history, and practical applications of remote sensing technology, with an emphasis on high spatial resolution multispectral aerial imagery collected using UAS. Other topics include geographic information systems, aerial image interpretation, sensor resolution, orthomosaicing, georegistration, vegetation indices, and image classification.

Repeat for Credit
N

Typically Offered
Fall

UAS 387 - UAS Safety Applications

Credits: 2

This course provides students with the knowledge needed to best prepare for and conduct advanced UAS operations while staying safe. This course will cover Crew Resource Management, Human Factors, Safety Risk Mitigation strategies, and case study investigations.

Repeat for Credit
N

Requisites
Prerequisite: UAS 115.

Typically Offered
Fall

UAS 417 - Fixed-wing Instructor Flight Lab

Credits: 2

This is the culminating course intended to prepare students for roles as fixed-wing unmanned aircraft flight instructors. This course furthers develop and refine the flying skills necessary to assume control of the aircraft during adverse circumstances or unusual aircraft attitudes induced by a less experienced pilot. The fixed-wing instructor-in-training is required to demonstrate, in practice, the skills and knowledge obtained in earlier courses covering crew resource management and flight instruction as well as achievement of a high level of piloting skills. Upon successful completion of this course, the student is qualified as a K-State instructor on fixed-wing platforms and as pilot-in-command/operator-in-command during research missions authorized by the unmanned aircraft systems program.

Note
Four hours of lab per week.

Repeat for Credit
N

Requisites
Prerequisite: UAS 367.

Typically Offered
Spring

UAS 461 - Autonomous Flight Simulation Lab

Credits: 1

This course provides the student with simulation on high-end, sophisticated, proprietary autopilot systems in preparation for field operations flying aircraft equipped with similar autopilot/avionics packages.

Note
To hours of lab per week.

Repeat for Credit
N

Requisites
Prerequisite: UAS 370.
Corequisite: UAS 465.

Typically Offered
Spring

UAS 463 - Introduction to Autopilots and Mission Planning for Non-Aviators

Credits: 3

Focus is on mission planning and operations within the context of the simulated environment. Students are introduced to commercial, open source and/or proprietary autopilots and are required to complete simulated training missions with the ultimate goal of demonstrating skills competency and knowledge acquisition through evaluations of proficiency (e.g., through "check-outs" or "check-rides"). Students integrate autopilots into selected fixed-wing platforms. Intended for non-UAS majors and those without the FAA certifications and ratings required for

UAS 370, UAS 461 and UAS 465.

Note
Studio format incorporating lecture and lab elements.

Repeat for Credit
N

Requisites
Prerequisite: UAS 373.

Typically Offered
Spring

UAS 465 - Fixed-Wing Construction Lab and Autopilot Integration

Credits: 3

In this course, students will build a fixed-wing UAS. After completing the build and conducting a successful flight, students will integrate an autopilot into their platform. Using open source ground station software and commercial-off-the-shelf (COTS), open source autopilot firmware and hardware, students learn techniques for integrating autopilots into their selected fixed-wing platform and for exploring precision autonomous flight in preparation for conducting field operations to acquire remotely sensed data.

Repeat for Credit
N

Requisites
Prerequisite: UAS 280

Typically Offered
Spring

UAS 467 - Small Unmanned Aircraft Systems Payloads

Credits: 3

Course content covers various types of sUAS sensor packages and appropriate applications, preparing the student to properly select sensors based on mission profile, data needs and mission objectives. Students develop, design and construct a payload for integration into previously constructed aircraft in preparation for conducting missions to obtain data for post-flight processing.

Note
Studio format incorporating lecture and lab elements.

Repeat for Credit
N

Requisites
Prerequisite: UAS 465.

Typically Offered
Fall

UAS 470 - Flight and Field Operations

Credits: 3

Emphasis is on advanced unmanned aircraft systems operations in the live flight environment with a focus on safety and crew resource management. Emphasis is on experiential learning. Students are required to travel to an area designated for flight operations.

Note
Studio format incorporating predominantly lab components with less emphasis on lecture.

Repeat for Credit
N

Requisites
Prerequisite: UAS 461 and UAS 465.

Typically Offered
Fall

UAS 471 - Advanced Fixed-Wing Operations Flight Lab

Credits: 2

This course provides students with training on a high-end sophisticated, proprietary autopilot system. Course delivery will focus on safety and crew resource management. Emphasis is on experiential learning.

Note
3 hours of lab per week. Students are required to travel to an area designated for flight operations.

Repeat for Credit
N

Requisites

Prerequisite: UAS 357.

Typically Offered
Fall

UAS 475 - Data Acquisition and Post-processing

Credits: 3

Students build upon the basic image processing skills gained in the previous course, expanding their knowledge of common aerial image data processing tasks using industry-standard software packages. Aerial data collection methodologies are introduced, including consideration of aerial mission flight parameters.

Repeat for Credit
N

Requisites
Prerequisite: UAS 115 and UAS 374.

Typically Offered
Spring

UAS 476 - Low Altitude Remote Sensing Project Development

Credits: 3

Students gain practical experience collecting and processing their own high resolution aerial datasets using multirotor and/or fixed-wing UAS, and are instructed in proven workflows for successful commercial UAS mapping operations. The topic of payload selection and integration will enable a project to collect data for subsequent processing.

Repeat for Credit
N

Requisites
Prerequisite: UAS 475

Typically Offered
Fall

UAS 477 - Fundamentals of Thermography

Credits: 3

Students learn the process of acquiring and interpreting radiometrically calibrated thermal imagery, including real-time analysis and ortho mosaicking. Specific topics include history of thermal sensors, best practices for calibration and mission planning, and imagery post-processing methods, analysis, and deliverables. This course will prepare students to enroll in a Level 1 Thermography Certification course.

Note
Elective option for Aeronautical Technology BS–Unmanned Aircraft Systems Option
Course within the UAS Data Analytics Certificate

Repeat for Credit
N

Requisites
Prerequisite: UAS 374

Typically Offered
Fall, Spring

UAS 478 - Fundamentals of LIDAR

Credits: 3

Students learn how Light Detection and Ranging (LiDAR) systems are used in an sUAS setting and demonstrate their ability to collect, process, and analyze LiDAR data in various class, group, and individual projects. Specific topics include sUAS LiDAR integration, Global Positioning Systems (GPS), mission planning, post-processing methods and software, and final product deliverables.

Note
Elective option for Aeronautical Technology BS–Unmanned Aircraft Systems Option
Course within the UAS Data Analytics Certificate

Repeat for Credit
N

Requisites
Prerequisite: UAS 374

Typically Offered
Fall, Spring

UAS 480 - UAS Senior Design Project I

Credits: 1

Culminating experience is a sustained occasion when students will put into independent practice the intellectual, creative, and expressive skills/knowledge they have cultivated in their undergraduate curriculum. In this course students integrate discipline-specific knowledge in addition to communication and inquiry methods to solve problems and communicate mastery of their respective area of interest.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing.

Typically Offered
Fall

UAS 481 - UAS Senior Design Project II

Credits: 2

A continuation of UAS 480. Includes the implementation, testing, and delivery of the project initiated in UAS 480 UAS Senior Design I. Significant milestones are the completion of checkpoints outlined in the project proposal prepared in UAS 480 along with implementation, final report and final presentation.

Repeat for Credit
N

Requisites
Prerequisite: UAS 480

Typically Offered
Spring

UFS 640 - Topics in Urban Food Systems

Credits: 1-3

Selected topics in urban food systems.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

UFS 791 - Urban Agriculture

Credits: 2

Students will become familiar with a wide variety of urban agriculture types and production systems utilized in urban settings. The course will include background readings, case studies, guest speakers, student-facilitated class discussions, and lectures.

Repeat for Credit
N

Requisites
Prerequisite: Junior standing.

Typically Offered
Fall

Cross-listed
HORT 791

UFS 794 - Urban Food Systems

Credits: 2

This course will cover all components of urban food systems through the lens of food security, food justice, access, policy, and community planning. Students will gain skills in grant-writing, non-profit planning and management, and working with urban policy and planning boards.

Repeat for Credit
N

Typically Offered
Spring

Cross-listed
HORT 794

UFS 796 - Professional Development in Urban Food Systems

Credits: 1

A team instructed seminar course that provides urban food systems students with a suite of skills complimentary to their research experience but still necessary for professional career success.

Repeat for Credit
N

Typically Offered
Fall, Spring

Cross-listed
HORT 796

UFS 798 - Urban Food Systems Field Experience

Credits: 1

Students will engage in a work experience at Willow Lake Student Farm, Olathe Horticulture Research and Extension Center or another approved site. Three hours of field work per week are required.

Repeat for Credit
Y

Typically Offered
Fall, Summer

UHP 189 - Honors First-Year Seminar

Credits: 1

Selected topics seminar for new members of the University Honors Program. Focal topics will vary by section, but all seminars will overview student requirements and consider potential benefits and opportunities associated with the program.

Repeat for Credit
N

Requisites
Prerequisite: Admitted to the university honors program or instructor permission.

Typically Offered
Fall, Spring

VAP 788 - Basic and Applied Pharmacokinetics

Credits: 3

Provides a conceptual and quantitative understanding of the absorption, distribution, metabolism, and excretion of drugs and factors that influence these processes.

Repeat for Credit
Y

Typically Offered
Fall

Cross-listed
AP 788 Basic & Applied Pharmacokinetics

VAP 802 - Advanced Toxicology

Credits: 3-6

Advanced Toxicology

Repeat for Credit
N

Typically Offered
Other

VAP 805 - Cell Physiology

Credits: 3

Functions of the animal body are described with a primary focus at the cellular and molecular level with correlations to clinical topics. Course content builds on knowledge of chemistry, biochemistry, physics and biology. Basic physiological and pathophysiological mechanisms are examined in the context of the cell environment, intermediary metabolism and cell signaling.

Repeat for Credit
N

Requisites
First year standing in DVM degree or permission of course instructors

Typically Offered
Fall

VAP 806 - Gross Anatomy I

Credits: 6

Gross dissection of the dog with comparative aspects of the cat.

Note
Two hours lecture and nine hours lab a week.

Repeat for Credit

N

Requisites
Prerequisite: First-year standing in College of Veterinary Medicine or consent of the instructor.

Typically Offered
Fall

VAP 807 - Veterinary Systems 1

Credits: 6

Microstructure and function of the cardiovascular, endocrine, respiratory, and renal systems of domestic animals with emphasis on physiologic control mechanisms, interrelationships of body systems, and criteria for evaluating animal health.

Repeat for Credit
N

Requisites
Standing as a 1st year veterinary student or equivalent

Typically Offered
Fall

VAP 808 - Introduction to Veterinary Medicine and Biomedical Research: Concepts and Values

Credits: 1

This course is intended to provide first-year students an opportunity to experience the depth of veterinary/biomedical research required to advance the practice of veterinary medicine, and advance the field of medicine in general. The students will examine the challenges of conducting 1) foundational and translation research (genetic/genomic and mechanistic research), 2) foundational and applications to clinical research 3) population and observational research (epidemiology, prospective clinical trials, retrospective studies), 4) pharmacologic research (the impact of pharmacology on the biomedical sciences). The students will examine relevant connections, consider conceptual relationships, and critically evaluate integrative issues germane to both the practice of and the innovative progress of veterinary medicine. Faculty members in the Departments of A&P, DM/P, and CS, will present topical overviews, based on their professional experiences. This will be designed to connect and integrate fundamental principles and relationships between research and clinical application. These presentations provide examples of the fundamental requirements for clinical therapies and also provide examples of how innovative science leads to new therapies for long standing clinical disease. Additionally, students will learn the tools required to search relevant topic to their career paths within the medical literature. Finally, drawing on the multidisciplinary literature presented by faculty, students will explore the challenges in conducting genetic/genomic research, using genomic information, implementing research results to clinical practice, as well as addressing the social, legal, and professional policies that are emerging from new research. Students will be expected to do reading and to complete online worksheets and present their findings/opinions in class. Class time will be devoted to presentations and to discussion of readings and related current events.

Repeat for Credit
N

Typically Offered
Fall

VAP 816 - Gross Anatomy II

Credits: 5

Gross dissection of the horse and ruminant with comparative aspects of the pig, laboratory animals, and the chicken.

Note
Three hours lecture and nine hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: VAP 806.

Typically Offered
Spring

VAP 817 - Veterinary Systems 2

Credits: 4

Microstructure and function of the reproductive and digestive systems of domestic animals with emphasis on physiologic control mechanisms, interrelationships of body systems, and criteria for evaluating animal health.

Repeat for Credit
N

Requisites
Standing as 1st year veterinary student or equivalent

Typically Offered
Spring

VAP 835 - Animal Care and Welfare

Credits: 1

This course will describe the veterinarian's role in protecting the health and welfare of animals. Students will be introduced to the major philosophical positions of animal use. The evolution of animal welfare science will be discussed and students will learn how to assess the welfare of companion, laboratory, zoo and food animals. Common causes of reduced animal welfare and ethical dilemmas will be covered.

Repeat for Credit
N

Typically Offered
Fall

Cross-listed
AP 835 Animal Care and Welfare

VAP 844 - Veterinary Pharmacology I

Credits: 4

The basic principles of pharmacology, the interactions of drugs and living systems including fundamental principles of pharmacokinetics, pharmacodynamics, receptor-coupling, and mechanisms of action. A systems-based approach to drug classes will be emphasized.

Note
Four hours of lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: VAP 804 and VAP 818 or equivalent.

Typically Offered
Fall

VAP 846 - Veterinary Pharmacology II

Credits: 2

The basic principles of pharmacology, the relationship of drug actions and interactions on physiological principles and pathophysiological conditions. Pharmacokinetics, pharmacodynamics, and a systems-based approach to drug classes will be emphasized.

Repeat for Credit
N

Requisites
Prerequisite: Student must have a "C" or higher in VAP 844 and DMP 712.

Typically Offered
Spring

VAP 871 - Toxicology

Credits: 3

Effects of harmful substances on the animal body. Emphasis placed on toxicologic principles and management of the poisoned patient.

Repeat for Credit
N

Requisites
Prerequisite: 3rd year standing in the College of Veterinary Medicine or graduate students in the College of Veterinary Medicine.

Typically Offered
Spring

VAP 888 - Practical Use and Interpretation of Veterinary Scientific Literature

Credits: 1

Designed primarily for veterinary students in the first, second or third year of the DVM curriculum. The course is intended to teach literature search skills, organization of your own literature library, and critical evaluation of clinical reports and research literature. The format is lecture as well as small group and online discussion. Students are required to contribute to classroom and online discussions and to complete written assignments.

Repeat for Credit
Y

Typically Offered
Fall

VAP 891 - A&P Veterinary Medicine Elective Graded

Credits: .5-3

Special topics for veterinary students in the disciplines offered by the department.

Note
Lecture or combination lecture with lab.

Repeat for Credit
Y

Requisites
Prerequisite: 1st, 2nd, or 3rd year students in Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VAP 893 - Introduction to Nanomedicine

Credits: 1

This course is a brief introduction to nanomaterials and nanomedicine with a focus on clinical applications of nanotechnology. The course presents basic principles of nanotechnology; current clinical applications of nanomedicine; future horizons in nanomedicine.

Repeat for Credit
N

Typically Offered
Spring

VAP 894 - Comparative Embryology

Credits: 1

An overview of development anatomy as it relates to clinically important developmental defects and/or normal structure and function of common domestic animals.

Repeat for Credit
N

Requisites
Prerequisites: Enrollment in the One Year Master's (non-thesis M.S. in Veterinary Biomedical Science) program or permission of instructor.

Typically Offered
Spring

VAP 897 - Problems in Animal Welfare

Credits: 1

This course will expand on the role of veterinarians in the field of animal welfare. Students will be introduced to the major philosophical positions of animal use. The evolution of animal welfare science will be discussed and students will learn how to assess the welfare of companion, laboratory, zoo and food animals. Contemporary issues in animal welfare will also be explored.

Repeat for Credit
N

Requisites
Recommended Prerequisite: VAP835 or AP835

Typically Offered
Spring

VAP 900 - Advanced Clinical Anatomy and Teaching Practicum

Credits: 2

This 2-week clinical anatomy rotation elective is designed for DVM students seeking advanced knowledge and teaching experience in veterinary anatomy. Participants will enhance their understanding of regional and systemic anatomy through hands-on dissection, journal club presentations, and the development of clinical teaching materials. This course is especially beneficial for those with interests in surgical specialties, radiology, neurology, and emergency medicine.

Repeat for Credit
N

Requisites
DVM 4th Year Standing

Typically Offered
Fall, Spring

VCS 809 - Veterinary Clinical and Professional Skills I

Credits: 1

The course will be taught during the fall semester as a required introductory level course for first year veterinary students. This is the first in a series of foundational courses designed to introduce students to key clinical skills, including communication and critical thinking, that they will encounter in a clinical setting and to provide students with a problem-based approach to learning.

Repeat for Credit
N

Requisites
Prerequisite: First year standing in the College of Veterinary Medicine.

Typically Offered
Fall

VCS 816 - Veterinary Clinical Skills and Professional Skills II

Credits: 1

The course will be taught during the spring semester as a required introductory level course for first year veterinary students.

The primary objective of the course is to provide students with an opportunity to learn normal animal behavior for the most commonly evaluated large animal species in clinical practice (the horse and the cow); to safely handle and restrain them; and to practice basic physical examination skills. A secondary objective of the course is to introduce students to the basic principles of biosecurity, sterile technique, venipuncture, and intravenous catheterization.

In addition, students will build onto first-semester instruction in clinical communication, written documentation within the medical record, and introductory surgical skills.

The course will include introductory lectures as well as structured and self-directed laboratory sessions that will involve both live animals and non-animal teaching models.

Note
Two 1.5-hour laboratory sessions will occur weekly.

Repeat for Credit
N

Requisites
Prerequisite: VCS 809.

Typically Offered
Spring

VCS 819 - Veterinary Medicine in a Foreign Context

Credits: 1

Lecture and discussion-based course preparing students to enroll in CS 821. Students will investigate agricultural and veterinary medicine in a specific country.

Repeat for Credit
Y

Requisites
Pre-requisite: Commitment to enroll in VCS 821 International Veterinary Study Tours and enrolled as 1st, 2nd, or 3rd year student in the College of Veterinary Medicine. Additional students admitted with discretion of the faculty member leading VCS 821.

Typically Offered
Spring

VCS 820 - Topics in Global Veterinary Medicine

Credits: 1

An overview of the role of veterinarians around the world. Topics include international uses and attitudes about animals, problems the world faces pertaining to livestock production, and social tensions. One hour lecture each week.

Note
One hour lecture each week.

Repeat for Credit
N

Requisites
Prerequisite: 1st or 2nd year standing in the College of Veterinary Medicine, or enrolled as a graduate student with instructor permission.

Typically Offered
Spring

VCS 821 - International Vet Study Tours

Credits: 1

Faculty-led trip for students to explore veterinary medicine in a foreign country. Prior to travel, students will learn about the country through lectures, research, presentations. During the trip they will interact with nationals in the veterinary profession and experience the culture.

Repeat for Credit
Y

Requisites
Prerequisite: Successful completion of VCS 819 in the semester immediately preceding. Enrolled as a 1st-3rd year or grad student in the College of Vet Med. Additional students admitted with discretion of faculty leading the tour.

Typically Offered
Summer

VCS 822 - Introduction to Sustainable Beef Systems

Credits: 1

This course provides the fundamentals of assessing sustainability in beef production systems through evaluation of aspects of sustainability pillars, people, planet and profit, in each sector of the beef value chain. The course focuses on principles of sustainable food systems, beef cattle production practices, systems thinking, and impacts of food choices.

Repeat for Credit
N

Requisites
Prerequisite: 1st, 2nd, or 3rd Year Standing in the College of Veterinary Medicine.

Typically Offered
Fall

Cross-listed
CS 822

VCS 832 - Antimicrobial Resistance in Bacteria: A One Health Perspective

Credits: 1

This course addresses the concept of One Health which integrates the knowledge of the biological elements necessary for the evolution of antimicrobial resistance (AMR) in bacteria and other factors (animals, humans, environments, socioeconomic features, and behavioral changes) involved in its emergence and dissemination.

Repeat for Credit
N

Requisites
Prerequisite: 1st, 2nd, or 3rd Year Standing in the College of Veterinary Medicine

Typically Offered
Fall

Cross-listed
CS 832 Antimicrobial Resistance in Bacteria: A One Health Perspective

VCS 839 - Veterinary Clinical and Professional Skills III

Credits: 1

A continuation of Veterinary Clinical and Professional Skills II. Introduces how to perform common diagnostic tests in clinical practice and interpret them. Builds upon basic palpation skills to practice isolating specific tissues and organs. Applies surgical principles to the practice of advanced suture patterns.

Repeat for Credit
N

Requisites
Prerequisite: VCS 809 and VCS 816

Typically Offered
Fall

VCS 840 - Communication with the Agricultural Worker

Credits: 2

An elective course focused on improving communications

between veterinarians and animal caretakers in production agriculture and equine industries. The course will use face to face discussions and online seminars in KSOL to teach communications skills with a focus on common terminology and vocabulary necessary for effective communication. Audio-visual teaching utilizing immersion philosophy is utilized to provide the material course work.

Repeat for Credit
N

Requisites
Prerequisite: 2nd or 3rd year standing in the College of Veterinary Medicine or enrolled as a graduate student.

Typically Offered
Fall, Spring

VCS 843 - Introduction to Veterinary Surgery

Credits: 2

The purpose of VCS 843 Introduction to Veterinary Surgery is to introduce the second year veterinary student to small animal surgical principles, specific small animal surgical conditions, their clinical signs, appropriate diagnostic evaluation, surgical treatment, pre- and post-operative care, and complications. Clinical application and reasoning will also be a focus. This course will establish a foundation of knowledge that students will build on in VCS 863 Veterinary Surgery I in the fall semester of the third year.

Repeat for Credit
N

Requisites
2nd Year Standing in the College of Veterinary Medicine

Typically Offered
Spring

VCS 844 - Medicine I

Credits: 4

Consideration of medical and pathophysiologic aspects of diseases affecting the urinary, endocrine, integumentary, respiratory, hemic, and
neuromuscular systems.

Note
Four one hour lectures per week.

Repeat for Credit
N

Requisites
Prerequisite: Second-year standing in the College of Veterinary Medicine.

Typically Offered
Spring

VCS 845 - Radiology

Credits: 3

The theory and principles of x-rays, production and interpretation of radiographs and exposure factors, special radiographic methods, film storage and handling, processing, safety measures, and biologic effects of radiation.

Note
Two hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: Second-year standing in the College of Veterinary Medicine.

Typically Offered
Spring

VCS 846 - Veterinary Clinical and Professional IV

Credits: 1

A continuation of Veterinary Clinical and Professional Skills III. Introduces advanced organ-specific examination techniques including otoscopy and ophthalmoscopy. Expands the concepts of diagnostic testing and diagnostic test interpretation. Prepares students for surgical anesthesia and anesthetic monitoring through the use of non-animal teaching models.

Repeat for Credit
N

Requisites
Prerequisites: VCS 809, VCS 816, and VCS 839.

Typically Offered
Spring

VCS 861 - Food Animal Medicine

Credits: 4

A study of the etiology clinical signs, diagnosis, treatment and control of diseases which affect cattle, swine, and sheep.

Note
Four hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: Third-year standing in the College of Veterinary Medicine.

Typically Offered
Fall

VCS 862 - Theriogenology

Credits: 3

Consideration of prevention, diagnosis, and treatment of disease, and maintenance of health and productivity of the genital tract of domestic animals. Three hours of lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: Third-year standing in College of Veterinary Medicine or graduate student.

Typically Offered
Fall

VCS 863 - Veterinary Surgery I

Credits: 3

Introduction to the basics of veterinary anesthesia, surgical techniques, and patient management by a systems design. Problems common to all species of domestic animals will be presented to provide foundations of surgical knowledge and experience.

Note
Three hours of lecture.

Repeat for Credit
N

Requisites
Prerequisite: Satisfactory completion of all required second year veterinary courses.

Typically Offered
Fall

VCS 864 - Applied Clinical Skills and Surgical Laboratories

Credits: 3

The VCS 864 Applied Clinical Skills and Surgical Laboratories course is a hands-on live animal laboratory course with multiple objectives. This course teaches basic clinical skills including small animal handling, physical examination, sample collection, diagnostic procedures, patient assessment and management, medical records, and clinical communication. Additionally, the course will teach basics of small animal veterinary anesthesia, surgical techniques, and live animal patient management. Skills taught in this course will build on introductory skills learned in 1st and 2nd year clinical skills courses. The student will progress to performing general anesthesia, surgery (spays and neuters), and perioperative care for humane shelter animals. The skills taught in this course will be used as a framework for students to continue building on during their senior year as they learn to function as effective veterinarians.

Repeat for Credit
N

Requisites
Prerequisite: Concurrent with or successful completion of VCS 863

Typically Offered
Fall

VCS 865 - Exotic Pet Medicine

Credits: 2

Entry-level knowledge base for the species likely to be encountered in a private practice setting including snakes/small reptiles, caged birds, and small mammals

(ferrets, gerbils, hamsters, chinchillas).

Repeat for Credit
N

Requisites
Prerequisite: Third-year standing in the College of Veterinary Medicine.

Typically Offered
Fall

VCS 867 - Medicine II

Credits: 4

Consideration of the medical and pathophysiological aspects of diseases affecting the gastrointestinal, cardiovascular, and ophthalmic systems, oncology, and dentistry.

Note
Four one hour lectures per week.

Repeat for Credit
N

Requisites
Prerequisite: Third-year standing in the College of Veterinary Medicine.

Typically Offered
Fall

VCS 868 - Artificial Intelligence in Veterinary Medicine

Credits: 1

This elective course explores the impact of artificial intelligence on the field of medicine, with a focus on veterinary applications. Students will learn about the fundamentals of AI, machine learning, and data science, and how these technologies are used to improve diagnostics, treatment planning, patient monitoring, and overall patient care. The course will also address ethical considerations, regulatory frameworks, and the future of AI in healthcare. Through lectures, case studies, and hands-on projects, students will gain a comprehensive understanding of AI's role in advancing medical and veterinary practices.

Repeat for Credit
N

Requisites
1st, 2nd, or 3rd Year Standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring

VCS 874 - Ethics and Jurisprudence

Credits: 1

Socratic ethics are discussed along with the American Veterinary Medical Association's Code of Ethics and practical situations with a fundamental ethical basis. The Kansas Practice Act is explored as an example of governance in veterinary medicine. The role of animals in humans' well being is addressed along with the philosophy of animal welfare. The law and the practicing veterinarian are discussed with emphasis upon professional liability.

Repeat for Credit
N

Requisites
Prerequisite: Third year standing in College of Veterinary Medicine.

Typically Offered
Spring

VCS 876 - Applied Large Animal Clinical Skills

Credits: 1

Demonstration, instruction and experience in physical examination and diagnostic skills necessary for routine veterinary practice.

Note
DVM Course only

Repeat for Credit
N

Requisites
Prerequisite: Third-year standing in the College of Veterinary Medicine.

Typically Offered
Spring

VCS 877 - Clinical Nutrition

Credits: 2

A focus on practical aspects of nutrition as it relates to performance, health and animal well-being of food-producing animals and, programs designed for health and well-being of small animals including exotic animals. Nutritional aspects of the mechanisms of health and disease are taught primarily at the individual and population level with some molecular and cellular aspects included. Designed for all students to be able to properly nourish animals in their care during their career.

Repeat for Credit
N

Requisites
Prerequisite: Third-year standing in the College of Veterinary Medicine or graduate student.

Typically Offered
Spring

Cross-listed
ASI 886 and AP 886

VCS 878 - Veterinary Surgery II

Credits: 3

A continuation of Veterinary Surgery I. Introduction to the basics of veterinary anesthesia, surgical techniques, and patient management by a systems design. Problems common to all species of domestic animals will be presented to provide foundations of surgical knowledge and experience.

Note
Three hours lecture.

Repeat for Credit
N

Typically Offered
Spring

VCS 879 - Veterinary Surgery II Laboratory

Credits: 1

A continuation of Veterinary Surgery I Lab. Introduction to the basics of veterinary anesthesia, surgical techniques, and patient management by a systems design. Problems common to all species of domestic animals will be presented to provide foundations of surgical knowledge and experience.

Note
One lab per week.

Repeat for Credit
N

Typically Offered
Spring

VCS 880 - Veterinary Business and Professional Development

Credits: 1

This course provides a foundation in business management and marketing to prepare veterinary students for success in private veterinary practice. Lectures include personal marketing, business organizational structure, gauging and monitoring production, management practice finance, recruitment, personnel management, effective practice marketing (internal and external), achieving better client satisfaction and retention, and the road to practice ownership.

Repeat for Credit
N

Typically Offered
Spring

VCS 881 - Clinical Pharmacology

Credits: 2

Course focuses on the clinical application of drugs in veterinary species. Clinical pharmacologists and clinicians from multiple clinical specialties will focus on commonly used drugs. Students will be expected to review and build upon their previous pharmacology and medicine courses. Emphasis will be placed on administration (including routes, dosing calculations, and methods), avoiding adverse drug reactions and interactions, evaluating patient response, written and verbal client communication, and utilizing reference resources to select and properly use veterinary

therapeutics.

Repeat for Credit
N

Requisites
Prerequisite: Third-year standing in College of Veterinary Medicine.

Typically Offered
Spring

VCS 882 - Equine Medicine

Credits: 3

A study of the etiology, clinical signs, diagnosis, treatment, and control of common diseases which affect horses.

Note
Three hours lecture a week.

Repeat for Credit
N

Requisites
Prerequisite: VCS 867

Typically Offered
Spring

VCS 890 - CS Veterinary Medicine Elective Aux. (Graded)

Credits: 0.5-3

VCS 890 (Variable credit .5-3) fall, summer, and spring offering. Special topics for veterinary students in the disciplines offered by the department. Lecture or combination lecture with lab. Continuation of Topics from VCS 891.

Repeat for Credit
Y

Requisites
Prerequisite: 1st, 2nd, or 3rd year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 891 - CS Veterinary Medicine Elective

Credits: .5-3

Special topics for veterinary students in the disciplines offered by the department. Topics include:

Beef Production Medicine: The role of the veterinarian in livestock production units, including interactions with producers, nutritionists, investors and others in decision analysis. Emphasis is on the professional services that veterinarians provide to beef production systems.

Emergency Medicine: Presentations of cases in the ICU or cases that were recently seen on emergency. Current literature that is relevant to the case will be discussed.

Advanced Exotic Pet Medicine: Advanced study of the diseases, medicine, and captive management of non-traditional species including companion birds, reptiles, rabbits, ferrets, and rodents.

The Basics of Bovine Theriogenology: This class is designed to provide students enrolled in the veterinary curriculum a very practical knowledge base regarding bovine reproduction.

Equine Medicine: This course is designed to be complementary to CS 710. The material presented in this class will focus on diagnostic procedures and case presentations that will not be covered in the core curriculum.

The Learning Curve of Equine Practice: Covers various aspects of equine practice, not usually covered in traditional didactic lectures, including: equine husbandry, communication issues and insurance, horse colors, genetics, and genetic related diseases, aspects of equine practice and practice management, drug and medication rules for performance horses, and preventative medicine.

Pain Management: Discussion of the mechanisms of pain, certain pain syndromes, and the drugs and techniques available to provide analgesia.

Surgical Skills: Manual surgical skills will be taught using surgical models and cadaver tissues. Students will be taught the following skills and techniques: instrument handling, speed and efficiency, hand ties, ligature under tension, suture patterns, closure under tension, anastomosis and enterotomy technique and excision of circular lesions.

Advanced Concepts in Veterinary Clinical Anesthesia: The lectures will be divided among topics to enhance student preparation for practical clinical application of anesthetic principles in both small and large animal environments. Topics: anesthetic implications for certain disease states, management of intraoperative

complications, and special topics in large animal anesthesia.

Veterinary Management of Sheep and Goats: Topic content is delivered both as online seminars via KSOL and case-based discussions and problem solving exercises in the classroom on herd management, preventive health care, nutrition, medicine, diseases, reproduction, and surgery of sheep and goats.

Veterinary Ultrasonography: Topic content will be delivered both as online seminars via KSOL and case-based discussions. The physics, basic principles of use, and common artifacts of ultrasound will be covered as it relates to veterinary diagnostic imaging. Ultrasound imaging of the thorax (non-cardiac), abdomen, musculoskeletal system, and other areas (eye, thyroid/parathyroid) will be covered, predominantly in small animals. The course will cover both normal and pathologic ultrasound findings.

Applied Small Animal Behavior: Introduction to the commonly encountered canine and feline behavior topics in veterinary medicine. Students will learn how to address these behavioral concerns through behavior modification, desensitization, counter conditioning, and psychopharmacology. An additional goal of the course is to discuss practices that reduce fear in these patients during visits to their veterinarian.

Note
Lecture or combination lecture with lab.

Repeat for Credit
Y

Requisites
Prerequisite: 1st, 2nd, or 3rd year students in Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 892 - CS Veterinary Medicine Elective Cr/NC

Credits: .5-3

Special topics for veterinary students in the disciplines offered by the department. Topic Include:

Pre-Clinical Food Animal (Mixed) Practice Mentorship: Structured one week (45 contact hours) mentorship in a large animal (bovine) practice designed to promote clinical skills training in a private practice setting with practitioners who have expressed an interest in training and mentoring veterinary students.

Pre-Clinical Small Animal Practice Mentorship: Structured one week (45 contact hours) mentorship in a small animal practice designed to promote clinical skills training in a private practice setting with practitioners who have expressed an interest in training and mentoring veterinary students.

Practicing Veterinary Medicine in a Multicultural Society: Diversity in the broadest sense of the word (cultural, racial, sexual, gender, age, religious, etc.) will be explored in the context of the practice of veterinary medicine. Understanding diversity issues can positively affect the bottom line of nearly every veterinary practice.

Pre-Clinical Exotics/Zoological Practice Mentorship: Structured one week (45 contact hours) mentorship in an exotics/zoological practice designed to promote clinical skills training in a private practice setting with practitioners who have expressed an interest in training and mentoring veterinary students.

Note
Lecture or combination lecture with lab.

Repeat for Credit
Y

Requisites
Prerequisite: 1st, 2nd, or 3rd Year students in Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 900 - Veterinary Radiology and Diagnostic Imaging

Credits: 3

Radiographic, ultrasonographic and nuclear imaging in the clinical setting, with emphasis on making/identifying images of diagnostic quality, interpretation, indications for imaging, and radiation safety.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 901 - Clinical Externship and/or Programmed Study

Credits: 0-6

Provides the professional student with the opportunity to study with specialists not available at Kansas State University or in unique areas of veterinary medical practice or research.

Repeat for Credit
Y

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine and the approval of the externship or program of study by the course coordinator.

Typically Offered
Fall, Spring, Summer

VCS 903 - Laboratory Animal Medicine

Credits: 2

The study of laboratory animal medicine or comparative medicine to include colony health monitoring, preventive medicine, surgery, investigator support, and regulatory oversight.

Repeat for Credit
N

Requisites
Prerequisite: DMP 759 or requires coordinator approval. Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 904 - Clinical Anesthesia

Credits: 3

Practical instruction in the skills and techniques used in the practice of clinical veterinary anesthesia of both large and small animals.

Repeat for Credit
Y

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 905 - Zoo, Exotic, Wildlife, and Avian Medicine and Surgery

Credits: 3

Study of exotic, wildlife, and zoo animal medicine through participation in the clinical service in the Veterinary Health Center. Problem solving, differential diagnosis, diagnostic procedures, and medical and surgical therapy of non-traditional animals will be emphasized. Annual preventive medicine, medical procedures, and surgical procedures are also routinely performed at the City of Manhattan Sunset Zoo. Occasional medical and surgical procedures are performed in other zoos around the area.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 906 - Ophthalmology

Credits: 2

The study of the surgery and medical diagnosis and treatment of ocular disease in animals in the setting of the veterinary medical center. Problem solving, differential diagnosis, diagnostic procedures and medical and surgical therapy will be emphasized using veterinary patients.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 907 - Supplemental Zoo, Exotic, Wildlife and Avian Medicine and Surgery

Credits: 3

Additional training in the study of exotic, wildlife, and zoo animal medicine and surgery through participation in the clinical service in the Veterinary Health Center. Problem solving, differential diagnosis, diagnostic procedures, and medical and surgical therapy of non-traditional animals will be emphasized. Annual preventative medicine, medical procedures, and surgical procedures are also routinely performed at the City of Manhattan Sunset Zoo. Occasional medical and surgical procedures are performed in other zoos around the area.

Repeat for Credit
Y

Requisites
Prerequisite: 4th year standing in the College of Veterinary Medicine

Typically Offered
Fall, Spring, Summer

VCS 909 - Urgent Care

Credits: 1

Additional training and skills in triaging and managing patients in need of urgent or emergent care. Examples include wounds, fractures, trauma, cardiovascular shock, respiratory distress, and other urgent/emergent conditions. This will be conducted through lecture/discussion topic rounds and case-based learning.

Repeat for Credit
Y

Requisites
4th Year Standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 910 - Livestock Local Practice

Credits: 2

A study of the role of the veterinarian in the practice of clinical medicine in livestock production units. Students will work under faculty supervision in ambulatory and local practice settings.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 912 - Livestock Medicine and Surgery

Credits: 2

A study of individual livestock medicine and surgery. Students will work under faculty supervision in an in-house setting.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 913 - Advanced Feedlot Production Management

Credits: 2

Students desiring feedlot/stocker production training. Focus on effects of nutrition, preventative medicine, environment, personnel training and other issues on the health of growing/finishing cattle.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in College of Veterinary Medicine.

Typically Offered
Fall, Summer

VCS 915 - Advanced Cow-Calf Production Management

Credits: 1

For students desiring in-depth cow-calf production training including management and assessment of production data, nutrition and ration balancing, reproductive strategies, quality assurance and economic and Standardized Performance Analysis of cow-calf enterprises.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Spring, Summer

VCS 917 - Advanced Rural Food Animal Business Management

Credits: 1

An elective course that incorporates economic and food animal practice management skills. Course will focus on business aspects of agricultural industries and skills to manage a food animal practice.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in College of Veterinary Medicine.

Typically Offered
Fall, Spring

VCS 919 - Food Animal Bull Reproduction

Credits: 2

Students will get hands-on experience and become competent performing a complete Breeding Soundness Exam. Other reproductive topics will be covered.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring

VCS 920 - Equine Medicine

Credits: 2

This course will offer general exposure to equine internal medicine and theriogenology. Students will be responsible for diagnoses, treatment and nursing care of out-patients, in-patients, and emergency duties.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 921 - Clinical Equine Theriogenology

Credits: 2

Students will participate in routine procedures that develop skills in handling horses, rectal exams, ultrasonography, semen collection, artificial insemination, uterine therapies and minor surgical procedures.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Spring, Summer

VCS 922 - Equine Surgery

Credits: 2

This course will offer general exposure to equine surgery and theriogenology. Students will be responsible for diagnoses, treatment, and nursing care of out-patients, in-patients, and emergency duties.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 923 - Advanced Equine Studies

Credits: 4

Students will have opportunities for routine and advanced clinical skills training and case management. Course discussions and case presentations will be targeted for the equine interested student and will therefore present advanced material; case discussion and rounds materials.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall

VCS 924 - Equine Field Service

Credits: 2

This course will offer general exposure to equine field service and theriogenology. Students will be responsible for diagnoses, treatment, and nursing care of out-patients, in-patients and emergency duties.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 925 - Supplemental Equine

Credits: 2-4

An opportunity for students to pursue additional equine studies (medicine, surgery, etc.) in depth and assume substantial responsibility for care of hospitalized cases. Or students will have option to conduct research and present a seminar on a medicine or surgical subspecialty and pursue a special problem.

Repeat for Credit
Y

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 930 - Small Animal Internal Medicine

Credits: 3

The study of internal medicine in the setting of the Veterinary Health Center. Students will be engaged in the diagnosis and management of complex cases referred to the internal medicine service.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 931 - Clinical Oncology

Credits: 2

The approach to diagnosis and treatment of cancer-bearing patients will be emphasized. Skills to master include fine needle aspirates and basic cytology, biopsy techniques (punch, wedge, pinch and tru-cut), bone marrow aspirate and core biopsy procedures and chemotherapy administration. A greater depth of understanding of the biologic behavior and treatment options of commonly seen tumor types (lymphoma, mast cell tumors, hemangiosarcoma, osteosarcoma, etc.) and chemotherapy safety will be emphasized. Medical management of cancer-related problems as well as treatment of therapy-induced side effects will also be covered.

Repeat for Credit
Y

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 932 - Small Animal General Medicine

Credits: 3

The study of preventative medicine, general practice medicine, and specialty medicine. Students spend three weeks with the Pet Health Center learning the various aspects of outpatient services.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 933 - Dermatology/Medicine

Credits: 2

Designed to emphasize dermatology diagnostic work-up and management of dermatologic cases. May include proper techniques for performing procedures such as skin scraping, bacterial and fungal culturing, performing cytology, obtaining skin biopsies, ear clearing and trichography.

Repeat for Credit
Y

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 934 - Clinical Small Animal Soft Tissue Surgery

Credits: 3

This course is designed to train senior or elective veterinary students in the diagnosis and treatment of small animal soft tissue and general surgical diseases through participation in the Small Animal Soft Tissue Service of the Veterinary Medical Teaching Hospital.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in the KSU College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 935 - Comparative Cardiology

Credits: 2

Designed to expose students to the cardiovascular system of domestic animals, emphasizing clinical management and understanding of common congenital and acquired cardiac diseases.

Repeat for Credit
Y

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 936 - Clinical Small Animal Orthopedic Surgery

Credits: 3

Course is designed to train senior or elective veterinary students in diagnosis/treatment of small animal orthopedic surgical diseases through the Orthopedic Service of the Veterinary Medical Teaching Hospital.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 937 - Shelter Medicine

Credits: 2

The rotation will be a combination of in-class and laboratory exercises in Manhattan, and hands-on experiences at regional shelters. Topics include population medicine, infectious disease recognition and control, surgical sterilization, behavioral testing, and legal issues common to shelter settings.

Repeat for Credit
Y

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 938 - General Dentistry

Credits: 1

Skills and concepts common to general dentistry practice in the feline and canine, pre-operative exams, day-long wet lab to take and interpret digital intraoral radiographs, extract teeth, and perform dental nerve blocks. Also may participate in the evaluation, diagnosis, and treatment of primary care patients.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 939 - Supplemental Clinical Small Animal Soft Tissue Surgery

Credits: 3

Additional training in the diagnosis and treatment of small animal soft tissue and general surgical diseases through participation in the Small Animal Soft Tissue Service of the Veterinary Medical Teaching Hospital.

Repeat for Credit
Y

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 940 - Small Animal Emergency Rotation

Credits: 2

Enhanced training in the management of small animal patients presented to the emergency service. Evaluation, management, and monitoring of small animal patients in the intensive care unit.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 941 - Supplemental Small Animal Internal Medicine

Credits: 3

Additional training in the diagnosis, management and treatment of dogs and cats referred to the Internal Medicine service at the Veterinary Health Center.

Note
This course will be scheduled after your core Internal Medicine rotation.

Repeat for Credit
Y

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 942 - Advanced Surgical Experience

Credits: 2

Designed to increase exposure to soft tissue surgical theories and techniques by providing both hands on surgical experience on cadavers and literature review skills.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring

VCS 943 - Supplemental Clinical Small Animal Orthopedic Surgery

Credits: 3

Additional training in the diagnosis and treatment of small animal orthopedic surgical diseases through participation in the Small Animal Orthopedic Service of the Veterinary Medical Teaching hospital.

Repeat for Credit
Y

Requisites
Prerequisite: Fourth-year standing in the KSU College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 944 - Supplemental Small Animal Emergency

Credits: 2-4

An opportunity to pursue additional training in the management of small animal patients presented to the emergency services. Evaluation, management, and monitoring of small animal patients in the intensive care unit.

Repeat for Credit
Y

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 945 - Supplemental Dentistry for Small Animals

Credits: 1

A one week course where students will be instructed through lecture, cadaver labs, and live animal care. Topics covered will include dental evaluation techniques, instrumentation, dental radiography, tooth extraction techniques and regional anethesia. Objectives of the course will be to provide 4th year students with additional training of basic dentistry knowledge and experience performing oral exams, dental probing, scaling, polishing, radiographs and tooth extractions.

Note
Vet Course

Repeat for Credit
N

Requisites
Prerequisite: 4th Year Standing in the College of Veterinary Medicine and successful completion of CS 771 General Dentistry.

Typically Offered
Fall, Spring

VCS 946 - Shelter Operations Consultation

Credits: 1

This rotation will expose veterinary students to formal shelter consultation procedures. Students will learn how to take a critical look at the health of animal shelters to identify what is being done well and what needs to be improved. Students will also learn how to formulate recommendations in a way that does not overwhelm the administration of the shelters and can easily be implemented in a step-wise fashion.

Repeat for Credit
N

Requisites
Prerequisite: CS 781 Shelter Medicine and 4th Year Standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VCS 947 - Advanced Bovine Palpation

Credits: 2

Provide numerous opportunities for the student to learn how to identify the different structures of the bovine reproductive tract through rectal palpation and transrectal ultrasound, accurately diagnose pregnancy both manually and via ultraonography, and to identify various bovine reproductive abnormalities.

Repeat for Credit
N

Requisites
Prerequisite: VCS 891 Topics in Bovine Palpation Techniques and Reproductive Evaluation and 4th Year standing in the College of Veterinary Medicine.

Typically Offered
Fall

VCS 948 - Supplemental Small Animal General Medicine

Credits: 3

Additional training in the study of preventative medicine, general practice medicine, and specialty medicine through participation in the Small Animal General Medicine Service in the Veterinary Health Center.

Repeat for Credit
Y

Requisites
Fourth-year standing in the College of Veterinary Medicine

Typically Offered
Fall, Spring, Summer

VCS 949 - Shelter Medicine - Community Outreach

Credits: 1

Designed to give students an opportunity to build practice skills in a community outreach setting. This one week elective course will introduce students to access to care issues and prepare them to deliver veterinary services in socioeconomically diverse settings. The rotation will consist of in-class lessons and discussion followed by outreach clinics. Clinics will primarily focus on wellness exams, preventative medicine and treatment of routine medical conditions.

Repeat for Credit
Y

Requisites
Prerequisite: 4th Year Standing in College of Veterinary Medicine

Typically Offered
Fall, Spring, Summer

VCS 950 - Problems in Medicine or Surgery

Credits: 1-9

The course provides for the study of medical or surgical problems. The student, in conference with the major professor, outlines the methodology and procedures, conducts the study, and prepares a detailed report.

Repeat for Credit
Y

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VDMP 800 - Veterinary Career Development

Credits: 0

Introduction to career opportunities in veterinary medicine.

Note
A required zero-credit class. No tuition is charged.

Repeat for Credit
N

Requisites
1st year standing in the College of Veterinary Medicine.

Typically Offered
Fall

VDMP 811 - Clinical Pathology I

Credits: 2

Principles, application and interpretation of clinical laboratory procedures in clinical cases.

1 credit lecture / 1 credit lab

Repeat for Credit
N

Requisites
Corequisite: Current enrollment in the DVM 1st year curriculum

Typically Offered
Spring

VDMP 814 - Veterinary Bacteriology & Mycology

Credits: 3

Morphology, biology and classification of pathogenic bacteria and fungi and their relation to the causes of disease.

Note
Three hours of lecture; moving one semester forward in curriculum and dropping laboratory portion

Repeat for Credit
N

Requisites
Prerequisite: BIOL 255

Typically Offered
Spring

VDMP 816 - Trade and Agricultural Health

Credits: 2

This course considers the multilateral trading system as it relates to food safety, food security, animal health, plant health, and international cooperation. The course content will be of value to students interested in food safety and security, epidemiology, public health, agriculture, food science, security studies, political science, agricultural economics, veterinary medicine, and international relations.

Repeat for Credit
N

Typically Offered
Spring

VDMP 817 - Principles of Veterinary Immunology

Credits: 3

Innate and adaptive defense mechanisms in domestic animals. Topics include vaccinology, immunopathology, autoimmunity, immunodeficiency, and immunomodulation.

Repeat for Credit
N

Requisites
Prerequisite: BIOCH 521 and BIOL 255.

Typically Offered
Spring

VDMP 818 - Veterinary Epidemiology

Credits: 2

Introduction to the principles and methods of veterinary epidemiology: emphasizing how diseases affect populations (and associated implications for individuals), and application to disease diagnosis, treatment, prevention, and control.

Repeat for Credit
N

Typically Offered
Spring

Cross-listed
MPH 708

VDMP 831 - Veterinary Virology

Credits: 3

Morphology, biology, and classification of viruses and their relation to the causes of disease.

Veterinary Virology is a 3 credit lecture course that is designed for veterinary students in the second year of the professional curriculum. The course provides basic and

fundamental knowledge on the classification, pathogenesis, and diagnosis of viral pathogens affecting common veterinary species, including ovine, caprine, feline, canine, equine, bovine, avian, and porcine species. In addition, the course is designed to provide adequate knowledge and training for veterinarians in practice on the prevention and management of these viral diseases.

Note
Two hours recitation and three hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: VDMP 817.

Typically Offered
Fall

VDMP 832 - General Pathology

Credits: 4

Etiology, pathogenesis, lesions, and termination of processes of disease, including inflammation, necrosis, regeneration, oncology, and disturbances of metabolism, circulation, and growth.

Note
Three hours lecture and four hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: AP 806, AP 816 and AP 810.

Typically Offered
Fall

VDMP 834 - Veterinary Parasitology

Credits: 4

Study of the helminth, arthropod, and protozoan parasites of companion and food animals. Emphases are on diagnosis, clinical signs, lesions, treatment, control epidemiology, and public heath aspects of parasitic disease.

Repeat for Credit
N

Requisites
Prerequisite: AP 810, AP 804, AP 818 and DMP 817 & DMP 818. Must be 2nd yr student in the Veterinary Curriculum.

Typically Offered
Fall

VDMP 835 - Clinical Pathology II

Credits: 3

Principles, application and interpretation of clinical laboratory procedures in clinical cases

Two credits lecture, 1 credit lab.

Repeat for Credit
N

Requisites
Prerequisite: VDMP 811 Clinical Pathology I

Typically Offered
Fall

VDMP 841 - Veterinary Public Health

Credits: 2

The linkages between human health and animal health and production. Topics include zoonotic disease, emerging and exotic animal diseases, disaster preparedness, regulatory and community health issues focusing on the role of the veterinarian in all.

Note
Two hours lecture per week.

Repeat for Credit
N

Requisites
Prerequisite: Second-year standing in the College of Veterinary Medicine and VDMP 818.

Typically Offered
Spring

VDMP 857 - Systemic Pathology

Credits: 5

Pathology of the organ systems of domestic animals including gross and microscopic study of lesions.

Note
Three hours lecture and six hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: VDMP 832.

Typically Offered
Spring

VDMP 888 - Globalization, Cooperation, & the Food Trade

Credits: 1

This course will focus on issues and topics including, but not limited to, disputes in the international agricultural and food trade, new concepts such as Food and Agriculture Security, and the food-related challenges faced by wealthy as well as economically poor societies. The course will also address such important topics as the roles played by innovation and investment in the agricultural and food system, the importance of cross-border cooperation in regulation and trade, and the accomplishments of public health and trade policy thought leaders across history.

Repeat for Credit
N

Typically Offered
Fall, Spring

VDMP 891 - DMP Veterinary Medicine Elective

Credits: 1-3

Special topics for veterinary students in the disciplines offered by the department, including: Immunology, Parasitology, Microbiology, Toxicology, Pathology, Epidemiology, Biosafety and Biosecurity, Herd Disease Outbreak Investigation Techniques, Laboratory Animal Science, Laboratory Diagnosis, and Exotoxicology.

Note
Lecture or combination lecture with lab.

Repeat for Credit
Y

Requisites
Prerequisite: 1st, 2nd, or 3rd year students in Veterinary Medicine.

Typically Offered
Fall, Spring

VDMP 902 - Diagnostic Medicine

Credits: 2

Practical experience in necropsy procedures and laboratory findings.

Repeat for Credit
N

Requisites
Prerequisite: Fourth-year standing in the College of Veterinary Medicine.

Typically Offered
Fall, Spring, Summer

VDMP 911 - Dairy Production Medicine

Credits: 3

This course will be conducted using both in-class discussions and field experiences on Kansas dairies. The discussion portion will incorporate about 60% of class time, and field experiences 40%.

Repeat for Credit
N

Requisites
Prerequisite: 4th year standing in the College of Ve

Typically Offered
Other

WOEM 201 - Firearms, Cartridges and Ballistics

Credits: 1

This course will cover the types and functions of firearms used in hunting/shooting sports to include rifles, shotguns and handguns. Basic firearms maintenance will also be covered in this course.

Note
Class held off campus. Minimum 15 contact hours.

Repeat for Credit
N

Requisites
Prerequisite: Available only to Wildlife and Outdoor Enterprise Management majors.

Typically Offered
Fall

WOEM 202 - Rifle and Handgun Range Design, Construction and Operations

Credits: 1

This course covers the design and construction of rifle/handgun shooting ranges based on national standards. The course will also cover operational issues including events planning and implementation.

Note
Class held off campus at Fancy Creek State Shooting Range over a weekend. Minimum 15 contact hours.

Repeat for Credit
N

Requisites
Prerequisite: Available only to Wildlife and Outdoor Enterprise Management majors.

Typically Offered
Fall

WOEM 203 - Bowhunting Equipment and Skills

Credits: 1

This course covers the bowhunting equipment currently used for hunting. Bowhunting skills to include distance estimation, shot placement, etc. are also covered in this course.

Note
Class held off campus at Fancy Creek State Shooting Range over a weekend. Minimum 15 contact hours.

Repeat for Credit
N

Requisites
Prerequisite: Available only to Wildlife and Outdoor Enterprise Management majors.

Typically Offered
Fall

WOEM 205 - Sporting Clays Range Development and Operations

Credits: 1

This course will cover the history and present day rules of sporting clays, the development of sporting clays ranges and their ongoing operations and maintenance.

Note
Class held off campus at Flint Oak Hunting/Shooting Resort, Fall River, Kansas over a weekend. Minimum 15 contact hours.

Repeat for Credit
N

Requisites
Prerequisite: Available only to Wildlife and Outdoor Enterprise Management majors.

Typically Offered
Spring

WOEM 206 - Trap and Skeet Range Development and Operations

Credits: 1

This course will cover the development of "trap" and "skeet" shooting ranges. Operating principles will be covered to include staffing, event planning and implementation.

Note
Class held off campus at Flint Oak Hunting/Shooting Resort, Fall River, Kansas, over a weekend. Minimum 15 contact hours.

Repeat for Credit
N

Requisites
Prerequisite: Available only to Wildlife and Outdoor

Enterprise Management majors.

Typically Offered
Spring

WOEM 250 - Introduction to Wildlife and Outdoor Enterprise Management

Credits: 1

This course covers the wildlife and outdoor enterprise management business and profession in North America and worldwide.

Note
One hour recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: Available only to Wildlife and Outdoor Enterprise Management majors.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

WOEM 350 - Fauna and Flora of the Great Plains

Credits: 3

Identification, natural history, and distributions of fauna and flora species occurring in the Great Plains.

Repeat for Credit
N

Requisites
Prerequisites: BIOL 101 or BIOL 198.

Typically Offered
Fall

K-State 8
Natural and Physical Sciences

WOEM 400 - Pond and Sportfish Management

Credits: 3

Examines principles to manage ponds and recreational sportfish populations in North America including: pond design, construction, and maintenance, sportfish stocking and harvesting, life history of common species, fish habitat requirements, aquatic vegetation identification and control, and fundamentals of operating aquatic guiding operations.

Note
Two one-hour lectures and one three-hour lab per week. Field trips required.

Repeat for Credit
N

Requisites
Prerequisite: Available only to Wildlife and Outdoor Enterprise Management and Division of Biology majors.

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility

WOEM 495 - Undergraduate Research in Wildlife and Outdoor Enterprise Management

Credits: 0-3

Undergraduate students work with faculty mentors on projects involving various elements of research in WOEM including identifying a problem, designing and conducting experiments, interpreting and communicating the research results. The completed project must be presented at a professional forum, and students are required to write a final project report on completion of their project.

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

WOEM 555 - Big Game Management

Credits: 3

Application of practices to manage North American big

game species including harvest management, land management, ethics, laws, species' habitat requirements, natural history, daily and seasonal activities of each species, socioeconomic factors, and basics of managing a hunting operation.

Note
Two hours lecture and two hours lab a week. Field trips required.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 101 or BIOL 198

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Historical Perspectives

WOEM 560 - Upland Game Bird Management

Credits: 3

Application of practices to manage upland game birds in North America to include: harvest management, land management, ethics, laws, species' habitat requirements, daily and seasonal activities of each species, natural history, socioeconomic factors, and basics of managing a hunting operation.

Note
One weekend field trip required. Two hours lecture and two hours lab a week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 101 or BIOL 198

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility
Historical Perspectives

WOEM 561 - Waterfowl and Wetlands Management

Credits: 3

This course explores the natural history of waterfowl and wetland birds and habitat management. It includes basic information on the habitat requirements, management techniques, ranges, migration patters, history, problems, diseases, and identification of the waterfowl resources of North America. Professional principles and practices associated with hunting waterfowl species in North America to include: ethics, laws, species' habitat requirements, and daily and seasonal activities of each species, methods of harvest, dog handling, post-harvest handling and clientele interactions. Includes the following success skills: Communicates Effectively and Maintains Professional Skills and Attitudes.

Note
Two one hour lectures and one two hour lab per week.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 101 or BIOL 198

Typically Offered
Fall

K-State 8
Ethical Reasoning and Responsibility
Natural and Physical Sciences

WOEM 562 - Advanced Wildlife Habitat Management

Credits: 4

Theory and practice of managing terrestrial and aquatic vegetation for wildlife production.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 333.

Typically Offered
Fall

WOEM 570 - Internship for Wildlife and Outdoor Enterprise Management

Credits: 6-10

Intensive, paid practical experience with an approved hunting and/or shooting sports and/or fishing business.

Note
This is a three to seven month continuous experience.

Repeat for Credit
N

Requisites
Prerequisite: Available only to students majoring in Wildlife & Outdoor Enterprise Management.

Typically Offered
Fall, Spring, Summer

K-State 8
Ethical Reasoning and Responsibility
Historical Perspectives

WOEM 590 - Problems in Wildlife and Outdoor Enterprise Management

Credits: 0-6

Independent study and/or research project development guided by faculty in Wildlife and Outdoor Enterprise Management.

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

WOEM 595 - Wildlife and Outdoor Enterprise Management Senior Seminar

Credits: 1

This course will be used as a capstone course for the Wildlife and Outdoor Enterprise Management curriculum; to include case studies and field experience reviews.

Note
One hour recitation a week.

Repeat for Credit
N

Requisites
Prerequisite: Senior standing. Available only to Wildlife and Outdoor Enterprise Management majors.

Typically Offered
Spring

K-State 8
Ethical Reasoning and Responsibility

WOEM 596 - Wildlife and Outdoor Enterprise Management Study Abroad

Credits: 3

Seminar and travel course designed to prepare students before an international study abroad experience focused on several facets of wildlife and conservation, natural resources, diseases, and land management research. Upon completion of travel, students will analyze, critique, and report their experiences. Course will focus on appropriate oral and written documentation of the experience.

Note
Instructor permission

Repeat for Credit
Y

Typically Offered
Fall, Spring, Summer

K-State 8
Global Issues and Perspectives

WOEM 620 - Human-Wildlife Conflicts

Credits: 3

This course explores the theory and practice of assessing and controlling damage done by wild and feral vertebrate animals, especially mammals and birds. Content covers the philosophical, biological, and practical basis for managing human-wildlife conflicts. It includes basic information on use of traps, toxicants, repellents, exclusion and other wildlife control methods. Emphasis is on protecting agricultural crops and livestock, forest resources, and property.

Repeat for Credit
N

Requisites
Prerequisite: BIOL 198

Typically Offered
Spring-Odd Years

K-State 8
Ethical Reasoning and Responsibility
Natural and Physical Sciences

WOEM 855 - Resource Selection Methods and Theory

Credits: 3

Develops graduate students' knowledge and application of theory and methods used to evaluate the resource selection and distribution of wildlife and plant species.

Repeat for Credit
N

Typically Offered
Fall-Even Years

Colleges and Departments

College of Agriculture

- Agricultural Economics
- Agronomy
- Animal Sciences and Industry
- Communications and Agricultural Education
- Entomology
- General Agriculture
- Grain Science and Industry
- Horticulture and Natural Resources
- Plant Pathology

College of Architecture, Planning and Design

- Architecture
- Interior Architecture and Industrial Design
- Landscape Architecture and Regional & Community Planning

College of Arts and Sciences

- Aerospace Studies (Air Force ROTC)
- Art
- Biochemistry and Molecular Biophysics
- Biology
- Chemistry
- Dean of Arts and Sciences
- Economics
- English
- Geography and Geospatial Sciences
- Geology
- History
- Mathematics
- Media and Communication
- Military Science (Army ROTC)
- Modern Languages
- Music, Theatre, and Dance
- Philosophy
- Physics
- Political Science
- Psychological Sciences
- Social Transformation Studies
- Sociology, Anthropology, and Social Work
- Statistics

College of Business Administration

- Accounting
- Finance
- General Business
- Management
- Marketing

College of Education

- Curriculum and Instruction
- Dean of Education
- Educational Leadership
- Special Education, Counseling, and Student Affairs

College of Engineering

- Architectural Engineering and Construction Science
- Biological and Agricultural Engineering
- Chemical Engineering
- Civil Engineering
- Computer Science
- Dean of Engineering
- Electrical and Computer Engineering
- Industrial and Manufacturing Systems Engineering
- Mechanical and Nuclear Engineering

College of Health and Human Sciences

- Dean of Health and Human Sciences
- School of Consumer Sciences
- School of Health Sciences
- School of Human Sciences

College of Technology and Aviation (Salina Campus)

- Aviation
- Integrated Studies

Mary Lynn and Warren Staley School of Leadership

- Staley School of Leadership
- University Honors Program

College of Veterinary Medicine

- Anatomy and Physiology
- Clinical Sciences
- Diagnostic Medicine/Pathobiology

College of Agriculture

Dan Moser, Interim Dean
Jonathan Ulmer, Interim Associate Dean of Academic Programs

Nina Lilja, Associate Dean of International Agricultural Programs
Jane Schuh, Associate Dean of Research and Graduate Programs
Jannifer Bormann, Assistant Dean of Academic Programs
Deana Core, Assistant Dean of New Student Recruitment

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www.ag.k-state.edu

The College of Agriculture offers 14 bachelor of science degree programs, 10 master of science programs, 9 programs leading to the PhD, and a pre-veterinary medicine program. The programs and options provide flexibility to meet the needs of students who will enter varied careers in the food chain and related agribusinesses.

The profession

Professional agriculture is the application of the physical, biological and social sciences and the principles of management to food production, preservation and processing, crop and livestock production, marketing and processing, culture of flowers, turf grass, and ornamentals, life processes of plants and animals, natural resources management, economic development, agricultural education and communication, and related fields.

Faculty

Faculty in the College of Agriculture are actively involved in research and publish their findings regularly in scientific journals. They work closely with Extension specialists. This integration of teaching, research, and Extension helps ensure that courses are current and relevant.

Facilities

Effective instruction in the application of basic sciences to modern agricultural industries requires land, buildings, livestock, and equipment. More than 4,000 acres of land are used for experimental work and for instruction.

A feed mill, flour mill, and bakery include modern equipment from eight countries, and new facilities have recently been constructed. Colbert Hills Golf Course supports teaching and research related to the golf course management program. Greenhouses, laboratories, and field plots provide resources for horticulture and agronomy courses.

Modern animal industry and dairy and poultry units near campus contain some of the latest equipment for teaching and research in nutrition, genetics, and food processing (meat, milk, eggs). Livestock of many breeds, plus various soil types, field crops, fruits, vegetables, and ornamentals, are used in teaching and research.

Click on any of the following links for information:

- Internships and cooperative education
- Extracurricular activities
- International study opportunities
- Scholarships
- General Requirements
- General Education: K-State 8
- Program Choices
- University Honors Program
- Agriculture Scholars Program

Professional Programs

- Agribusiness—BS, MAB
- Agricultural economics—BS, MS, PhD
- Agricultural education—BS
- Agricultural education and communications - MS
- Agriculture and natural resources communication - BS
- Agronomy (crops and soils)—BS, MS, PhD
- Animal sciences and industry—BS, MS, PhD
- Bakery science and management—BS
- Entomology—BS, MS, PhD
- Feed and pet food management—BS
- Food science—MS, PhD
- Food science and industry—BS
- General Agriculture—two year
- Genetics—MS, PhD
- Grain science—MS, PhD
- Horticulture—BS, MS, PhD
- Milling science and management—BS
- Park management and conservation—BS
- Plant pathology—MS, PhD
- Pre-veterinary medicine—three year
- Veterinary medicine in agriculture—BS
- Wildlife and outdoor enterprise management —BS

Internships and cooperative education

Internships and co-op programs throughout the state and nation are available with agribusiness firms and agencies and in production agriculture to gain on-the-job experience. Specific internship and co-op requirements vary among departments and interdepartmental programs. Students may earn academic credit and salaries for approved internships and co-op experiences. The number of internships and co-op programs in the College of Agriculture is growing as companies seek to attract K-State graduates.

Extracurricular activities

Leadership, communication, and interpersonal skills are essential for today's agriculture graduate. K-State offers many opportunities to become involved on campus through departmental clubs, service organizations, student government, agricultural competition teams, and much more. Each contributes to greater personal and professional development.

International study opportunities

The College of Agriculture supports various programs for international experiential learning through agricultural study tours, semester abroad programs, and summer internships in other countries. The college also offers international study scholarships. An international agriculture minor that requires completion of an international experience is available to agriculture majors. Students in all majors are encouraged to include foreign language and international culture and business courses in their curricula. International travel and study programs are coordinated by the associate dean in 135 Waters Hall.

Scholarships

All students applying for College of Agriculture scholarships must complete and file electronically the K-State scholarship application. By completing the university's scholarship application, you become eligible for all university, college, and departmental scholarships for which you are qualified. Scholarship applications for entering freshmen and transfer students should be submitted by November 1 to receive priority consideration by the university and college.

General Requirements

Selection of a major

Students usually select a curriculum or major when they enter the college. They are provided academic advisors in their major fields. Students enroll in general agriculture if they want to enter some part of professional agriculture but are not yet ready to identify a particular major. These students are urged to choose majors before the end of the freshman year.

The curriculum or major may be changed at almost any time and with relative ease, though a change after the sophomore year may delay graduation.

Electives permit adaptation of the program to the student's goals. The student should work with an advisor to develop the most beneficial and effective academic program.

Many students work part time at K-State laboratories, greenhouses, and farms. This experience adds greatly to students' learning and understanding.

Selection of an option

Most major fields of study in agriculture provide for selection of groups of courses known as options. Some typical options include:

Business and industries
Students who wish to emphasize business, marketing, and management related to agribusiness firms may select an option in business and industries. Course work includes classes in business administration and economics.

Production/technical
Those who plan to enter farming, ranching, horticultural production, landscape and turf management, or other technical positions in agriculture or agribusiness may select a production/ technical option. Study in one of these options allows students to gain more depth in the technical aspects of their majors.

Sciences/professional
A science/professional option prepares students for research and graduate and professional schools. This option allows students to structure programs strong in the basic sciences and/or other areas that will enhance success in graduate and professional schools such as law and veterinary medicine. Additional options are available in certain curricula or majors to allow students to develop specific strengths or specializations.

General Education: K-State Core

Please click on the following link to learn more about General Education: K-State Core.

Program Choices

General agriculture

Students who are undecided regarding the selection of a major in agriculture may want to enroll in the general agriculture exploratory program. Courses taken in this area are selected with the help of an advisor to meet basic requirements and expose students to potential areas of study in agriculture through introductory course work in one or more departments.

Natural resource management

Students interested in natural resource management can pursue programs in park management and conservation; environmental communications; range management; or soil and environmental science.

A major in park management and conservation with options in law enforcement, park manager, recreation business, or interpretation can be earned in the Department of Horticulture and Natural Resources.

Range management and soil and environmental science options are available through the Department of Agronomy.

Students may major in agricultural and natural resource communications through the Department of Communications and Agricultural Education.

These programs provide training for individuals interested in interpretation and application of ecological principles to environmental problems involving natural resources. Each program contains courses in the social sciences and humanities to help students become sensitive to the interactions between humans and their environmental surroundings. Courses in the physical and biological sciences help students understand and solve environmental problems, and courses in communications assist them in

interpreting, conveying, and employing solutions. Many students in these programs also complete the secondary major in natural resources and environmental sciences.

Pre-veterinary medicine program (UVMA) and Bachelor of Science in Veterinary Medicine (BVMA)

The pre-veterinary medicine program in the College of Agriculture benefits students working toward admission to veterinary school. Students work with an advisor to find the best classes for their individual needs. While fulfilling the pre-vet curriculum, students can take additional courses to apply their skills.

The College of Veterinary Medicine does not offer a Bachelor of Science degree. The Doctor of Veterinary Medicine (DVM) is awarded after successfully completing a minimum of 64 hours of pre-professional requirements and four years of the professional curriculum.

The Bachelor of Science in Veterinary Medicine (BVMA): College of Agriculture students admitted into a College of Veterinary Medicine without a Bachelor of Science degree from Kansas State University will be granted a Bachelor of Science in Veterinary Medicine (BVMA) after successfully completing two years of the professional program. Go to the **Veterinary Medicine (BS)** curriculum for additional details.

Dual degrees/dual majors

The agribusiness complex of industries (processing, preservation, distribution, and retailing of farm-produced food, and manufacture and sale of farm equipment, feeds, and agricultural chemicals) employs a variety of professionally trained personnel. The type of education required varies with the nature of the work performed. A dual degree or a dual major may be appropriate, depending on the student's occupational objectives.

Dual degrees may be earned by a student who desires a BS degree in some discipline in agriculture along with a bachelors degree in some other college at K-State. To earn a dual degree, the student must complete the requirements for each degree. The student must complete all course requirements for each degree. Within the College of Agriculture, most majors receive a bachelor of science degree.

Dual majors are completed by students who wish to complete two different programs of study in the College of Agriculture while earning a bachelor of science degree. This approach allows the student to select two majors to give greater depth and breadth to the educational program. The student is required to complete the requirements for both majors and earns a bachelor of science degree. Notation of a Dual Major will be made on the student's transcript, however, only one BS will be awarded.

Secondary majors

Certain departmental courses have been approved for credit toward secondary majors in gerontology, global food systems leadership, international studies, and natural resources and environmental sciences. A popular choice that links well with several agriculture majors is the natural resources and environmental sciences secondary major.

Minors

To pursue a minor in the College of Agriculture, students must: (1) file a declaration of intent to pursue a minor with the minor-granting department, and (2) consult with an advisor in the minor-granting department prior to enrolling in the last three courses used to satisfy minor requirements. See departmental listings for more information about requirements for those minors.

- Agribusiness
- Agricultural economics

- Agronomy
- Animal sciences and industry
- Entomology
- Floral Design
- Food science
- Grain Science and Industry: Bakery Science, Cereal Chemistry, Pet Food Science
- Horticulture
- International agriculture
- Park Management and Conservation
- Pet Food Science
- Plant pathology

Certificates

Undergraduate certificate programs are offered in the college.

- Agricultural and Occupational Safety and Health
- Animal Health
- Animal Nutrition
- Baking Technology
- Dairy Science
- Equine Science
- Feed and Pet Food Manufacturing
- Food Safety and Quality
- Grain Processing
- Meat science
- Beef Cattle Feedlot Management
- Beef Cattle Ranch Management

University Honors Program

Please click on the following link to learn more about the University Honors Program .

Agriculture Scholars Program

The College of Agriculture Honors and Scholars Program enables capable undergraduate students to expand their skills and stimulate their curiosity for continual learning. Several unique benefits result from participation in the Honors and Scholars Programs. Students can explore a career area of interest through working closely with a faculty member on a research/creative project or other scholarly activity. Students may have an opportunity to attend professional meetings to give presentations and have the potential for publication of the final paper in a student or professional research journal. Participants are recognized at the College of Agriculture student recognition program and at commencement. Funding for undergraduate research project expenses are also available.

Students, on advice from faculty members, propose, prepare, and conduct a project of their choice. This activity provides students with hands-on experience in the functioning of persons in academia and, therefore, must be of a creative nature. This project will be relevant to one or more of the missions of land-grant institutions: research, Extension, and/or instruction. The research project

is typically completed during the junior or senior year. Supporting courses taken during the freshman and sophomore years are designed to build toward the development of a successful project proposal.

Eligibility - Agriculture Scholars Program

New freshman agriculture students with a 28 ACT (or equivalent SAT) or in the top 10 percent of their high school graduating class, new transfer students with a 3.5 GPA on 24 hours or more of transfer credit, and continuing students with a 3.5 or above K-State GPA are invited to join the Agriculture Scholars Program.

College of Agriculture Scholars Program Requirements

To graduate as a College of Agriculture scholar, students must have a cumulative K-State GPA of 3.4 or higher and complete the following 4 credits:

- **GENAG 000** Agriculture Scholars Program (0 credit) Enroll each semester
- **GENAG 396** Research Topic and Proposal Development
- **GENAG 515** Honors/Scholars Project: (2 credits) Written and oral report required upon completion of research or creative project. Project must be approved by college advisory committee and supervised by a faculty mentor.
- In addition to the GENAG courses, students are expected to complete at least one three-credit course numbered 600 or above in their curriculum

Research/Creative Project

The core of the both the College of Agriculture Scholars Program and the University Honors Program is the Research/Creative project. Working with a faculty mentor, students propose, prepare and conduct an honors/scholars project of their choice. The intent is to provide a creative academic experience relevant to the land-grant missions of research, Extension and instruction. The project is typically completed during the junior or senior year.

Questions about membership and requirements should be directed to the College of Agriculture Academic Programs Office in 135 Waters Hall.

Agricultural Economics

Allen M. Featherstone, Head

342 Waters Hall
785-532-6702
Fax: 785-532-6925
www.ageconomics.k-state.edu

Our curricula offers students the skills needed in business, while taking into account their own interests and career goals. The agribusiness degree has three options: agribusiness, agricultural sales, and international. The agricultural economics major has two options: specialty and farm management. Two pre-professional programs (pre-law and pre-vet) are available under the specialty option.

Bachelor of Science

Agribusiness - Agribusiness (BS)

Students will complete course work in science, math, and communication, plus courses in agribusiness and agricultural economics. To give a better understanding of agribusiness and the broad range the field covers, students will choose from three degree options: agribusiness, agricultural sales, and international agribusiness.

This program of study provides fundamental agribusiness content with course work in agricultural economics, agribusiness, and business courses that will prepare graduates for the industry and its related issues.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Agricultural Economics: 27 credit hours

- AGEC 105 - Agricultural Economics and Agribusiness Orientation **Credits:** 1
- AGEC 115 - Decision Tools for Agricultural Economics and Agribusiness **Credits:** 2
- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
  OR
- AGEC 121 - Honors Agricultural Economics and Agribusiness **Credits:** 3
- AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems **Credits:** 3
- AGEC 318 - Food and Agribusiness Management **Credits:** 3
- AGEC 500 - Production Economics **Credits:** 3
- AGEC 501 - Data Analysis and Optimization **Credits:** 3
- AGEC 505 - Agricultural Market Structures **Credits:** 3
- AGEC 515 - Food and Agribusiness Marketing **Credits:** 3
  OR
- AGEC 570 - Food Manufacturing, Distribution, and Retailing Economics **Credits:** 3
- AGEC 599 - Food and Agribusiness Management Strategies **Credits:** 3

Agricultural Economics Electives: 15 credit hours

Include at least three credit hours numbered 598 or above.

No more than 3 combined total credits from AGEC 460, AGEC 751, and GENAG 515 can be used toward Ag Econ Electives.

- AGEC 411 - Agricultural Policy **Credits:** 3
- AGEC 420 - Commodity Futures **Credits:** 3
- AGEC 470 - Cooperative Management **Credits:** 3
- AGEC 513 - Agricultural Finance **Credits:** 3
- AGEC 515 - Food and Agribusiness Marketing **Credits:** 3
- AGEC 516 - Agricultural Law and Economics **Credits:** 3
- AGEC 520 - Market Fundamentals and Futures/Options Trading **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGEC 535 - Agricultural Sales **Credits:** 3
- AGEC 560 - Data Analytics for Agricultural Economics **Credits:** 3
- AGEC 570 - Food Manufacturing, Distribution, and Retailing Economics **Credits:** 3

Choose at least one course from the list below:

- AGEC 598 - Farm Management Strategies **Credits:** 3
- AGEC 605 - Price Analysis and Forecasting **Credits:** 3
- AGEC 610 - Current Agriculture and Natural Resource Policy Issues **Credits:** 3
- AGEC 615 - Global Agricultural and Economic Development **Credits:** 3
- AGEC 623 - International Agricultural Trade **Credits:** 3
- AGEC 632 - Agribusiness Logistics **Credits:** 3
- AGEC 680 - Risk Management **Credits:** 3
- AGEC 710 - Comparative Food and Agriculture Systems **Credits:** 3
- AGEC 712 - Optimization Techniques for Agricultural Economics **Credits:** 3
- ECON 631 - Principles of Transportation **Credits:** 3

Cannot take more than 3 credit hours from the courses listed below:

- GENAG 515 - Honors/Scholars Project **Credits:** 0-1
- AGEC 460 - International Food and Agribusiness Study Tour **Credits:** 0-6
- AGEC 751 - Risk Management Fellows Seminar **Credits:** 1

Economics/Business: 21 credit hours

- ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
- ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 510 - Intermediate Macroeconomics **Credits:** 3
- MANGT 220 - Principles of Management **Credits:** 3

ACCTG, ENTRP, FINAN, MANGT, MIS, MKTG, or SALES Elective (200-level or above) 3 credit hours
ACCTG, ENTRP, FINAN, MANGT, MIS, MKTG or SALES Elective (500-level or above) 3 credit hours

Agricultural and Food Science Technology Electives: 6 credit hours

See department list for courses.

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Agricultural and Food Science Technology or Business Electives: 6 credit hours

Select from many non-AGEC courses in agriculture not used in Ag and Food Science Technology restricted electives, FNDH 132, FNDH 301, or any College of Business class (>300 level).

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Communication: 3 credit hours

Communication elective is required to be at the 300-level or above.

Courses in this block cannot be used to meet K-State Core requirements.

- COMM 311 - Business and Professional Speaking **Credits:** 3
- COMM 321 - Advanced Public Speaking **Credits:** 3
- COMM 130 - Interpersonal Communication **Credits:** 3
- COMM 323 - Nonverbal Communication **Credits:** 3
- COMM 326 - Group Communication **Credits:** 3
- COMM 535 - Communication and Leadership **Credits:** 3
- ENGL 417 - Written Communication for the Workplace **Credits:** 3
- ENGL 516 - Written Communication for the Sciences **Credits:** 3

  Any Modern Language course 300 or above

Math and Statistics: 3 credit hours

The courses with a KSC designation are required if not met through University Core Requirements.

Statistics

- STAT 250 - Business and Economic Statistics I **Credits:** 3

  Math: Select 1 course
- MATH 205 - General Calculus **Credits:** 3

  KSC-030
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Finance Overlay: 3 credit hours

Students must take at least one of the courses below. Course can fulfil other curriculum requirements.

- AGEC 513 - Agricultural Finance **Credits:** 3
- FINAN 450 - Principles of Finance **Credits:** 3

Unrestricted electives as needed to meet 120 credit hours

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Agribusiness - Agricultural Sales (BS)

Students will complete course work in science, math, and communication, plus courses in agribusiness and agricultural economics. To give a better understanding of agribusiness and the broad range the field covers, students will choose from three degree options: agribusiness, international agribusiness, and agricultural sales.

The agricultural sales program provides fundamental agribusiness content with course work in agricultural economics, agribusiness, and business courses that will prepare graduates for the sales industry and its related issues.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Agricultural Economics: 33 credit hours

- AGEC 105 - Agricultural Economics and Agribusiness Orientation **Credits:** 1
- AGEC 115 - Decision Tools for Agricultural Economics and Agribusiness **Credits:** 2
- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
  OR
- AGEC 121 - Honors Agricultural Economics and Agribusiness **Credits:** 3
- AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems **Credits:** 3
- AGEC 318 - Food and Agribusiness Management **Credits:** 3
- AGEC 500 - Production Economics **Credits:** 3
- AGEC 501 - Data Analysis and Optimization **Credits:** 3
- AGEC 505 - Agricultural Market Structures **Credits:** 3
- AGEC 515 - Food and Agribusiness Marketing **Credits:** 3
- AGEC 535 - Agricultural Sales **Credits:** 3
- AGEC 570 - Food Manufacturing, Distribution, and Retailing Economics **Credits:** 3
- AGEC 599 - Food and Agribusiness Management Strategies **Credits:** 3

Agricultural Economics Electives: 9 credit hours

Include at least three credit hours numbered 598 or above.

No more than 3 combined total credits from AGEC 460, AGEC 751 and GENAG 515 can be used toward Ag Econ Electives.

- AGEC 411 - Agricultural Policy **Credits:** 3

- AGEC 420 - Commodity Futures **Credits:** 3
- AGEC 470 - Cooperative Management **Credits:** 3
- AGEC 513 - Agricultural Finance **Credits:** 3
- AGEC 516 - Agricultural Law and Economics **Credits:** 3
- AGEC 520 - Market Fundamentals and Futures/Options Trading **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGEC 560 - Data Analytics for Agricultural Economics **Credits:** 3

Choose at least one course from the list below:

- AGEC 598 - Farm Management Strategies **Credits:** 3
- AGEC 605 - Price Analysis and Forecasting **Credits:** 3
- AGEC 610 - Current Agriculture and Natural Resource Policy Issues **Credits:** 3
- AGEC 615 - Global Agricultural and Economic Development **Credits:** 3
- AGEC 623 - International Agricultural Trade **Credits:** 3
- AGEC 632 - Agribusiness Logistics **Credits:** 3
- AGEC 680 - Risk Management **Credits:** 3
- AGEC 710 - Comparative Food and Agriculture Systems **Credits:** 3
- ECON 631 - Principles of Transportation **Credits:** 3
- AGEC 712 - Optimization Techniques for Agricultural Economics **Credits:** 3

Cannot take more than 3 credit hours from the courses listed below:

- AGEC 460 - International Food and Agribusiness Study Tour **Credits:** 0-6
- AGEC 751 - Risk Management Fellows Seminar **Credits:** 1
- GENAG 515 - Honors/Scholars Project **Credits:** 0-1

Agricultural and Food Science Technology Electives: 6 credit hours

See department list for courses.

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Communication: 3 credit hours

Communication elective is required to be at the 300-level or above.

Courses in this block cannot be used to meet K-State Core requirements.

- COMM 311 - Business and Professional Speaking **Credits:** 3
- COMM 321 - Advanced Public Speaking **Credits:** 3
- COMM 130 - Interpersonal Communication **Credits:** 3
- COMM 323 - Nonverbal Communication **Credits:** 3
- COMM 526 - Persuasion **Credits:** 3
- COMM 535 - Communication and Leadership **Credits:** 3

Economics/Business: 27 credit hours

- ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
- ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
- ECON 110 - Principles of Macroeconomics **Credits:** 3

- ECON 510 - Intermediate Macroeconomics **Credits:** 3
- MANGT 220 - Principles of Management **Credits:** 3
- MKTG 250 - Introduction to Marketing **Credits:** 3
- SALES 300 - Fundamentals of Professional Selling **Credits:** 3
- SALES 450 - Sales Technology **Credits:** 3
- SALES 451 - Sales Force Leadership **Credits:** 3

Math and Statistics: 3 credit hours

The courses with a KSC designation are required if not met through University Core Requirements.

Statistics

- STAT 250 - Business and Economic Statistics I **Credits:** 3

Math: Select 1 course

- MATH 205 - General Calculus **Credits:** 3
  KSC-030
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Finance Overlay: 3 credit hours

Must take one of the following courses. Course(s) may be used elsewhere in the curriculum.

- AGEC 513 - Agricultural Finance **Credits:** 3
  OR
- FINAN 450 - Principles of Finance **Credits:** 3

Unrestricted electives as needed to meet 120 credit hours

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Agribusiness - International (BS)

Students will complete course work in science, math, and communication, plus courses in agribusiness and agricultural economics. To give a better understanding of agribusiness and the broad range the field covers, students will choose from three degree options: agribusiness, agricultural sales, and international agribusiness.

This program focuses on global issues facing agribusinesses today. Students complete basic agribusiness course work, study another language, and participate in an international experience. This is crucial to grasp the wide range of issues facing international agribusinesses and their place in the global economy.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Agricultural Economics: (33 credit hours)

- AGEC 105 - Agricultural Economics and Agribusiness Orientation **Credits:** 1
- AGEC 115 - Decision Tools for Agricultural Economics and Agribusiness **Credits:** 2
- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
  OR
- AGEC 121 - Honors Agricultural Economics and Agribusiness **Credits:** 3
- AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems **Credits:** 3
- AGEC 318 - Food and Agribusiness Management **Credits:** 3
- AGEC 500 - Production Economics **Credits:** 3
- AGEC 501 - Data Analysis and Optimization **Credits:** 3
- AGEC 505 - Agricultural Market Structures **Credits:** 3
- AGEC 515 - Food and Agribusiness Marketing **Credits:** 3
  OR
- AGEC 570 - Food Manufacturing, Distribution, and Retailing Economics **Credits:** 3
- AGEC 599 - Food and Agribusiness Management Strategies **Credits:** 3
- AGEC 615 - Global Agricultural and Economic Development **Credits:** 3
- AGEC 623 - International Agricultural Trade **Credits:** 3

Agricultural Economics Electives: (9 credit hours)

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Include at least three credit hours numbered 598 or above.

No more than 3 combined total credits from AGEC 460, AGEC 751 and GENAG 515 can be used toward Ag Econ Electives.

- AGEC 411 - Agricultural Policy **Credits:** 3
- AGEC 420 - Commodity Futures **Credits:** 3
- AGEC 470 - Cooperative Management **Credits:** 3
- AGEC 513 - Agricultural Finance **Credits:** 3
- AGEC 515 - Food and Agribusiness Marketing **Credits:** 3
- AGEC 516 - Agricultural Law and Economics **Credits:** 3
- AGEC 520 - Market Fundamentals and Futures/Options Trading **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3

- AGEC 535 - Agricultural Sales **Credits:** 3
- AGEC 560 - Data Analytics for Agricultural Economics **Credits:** 3
- AGEC 570 - Food Manufacturing, Distribution, and Retailing Economics **Credits:** 3

Choose at least one course from the list below:

- AGEC 598 - Farm Management Strategies **Credits:** 3
- AGEC 605 - Price Analysis and Forecasting **Credits:** 3
- AGEC 610 - Current Agriculture and Natural Resource Policy Issues **Credits:** 3
- AGEC 632 - Agribusiness Logistics **Credits:** 3
- AGEC 680 - Risk Management **Credits:** 3
- AGEC 710 - Comparative Food and Agriculture Systems **Credits:** 3
- AGEC 712 - Optimization Techniques for Agricultural Economics **Credits:** 3
- ECON 631 - Principles of Transportation **Credits:** 3

Cannot take more than 3 credit hours from the courses listed below:

- AGEC 460 - International Food and Agribusiness Study Tour **Credits:** 0-6
- AGEC 751 - Risk Management Fellows Seminar **Credits:** 1
- GENAG 515 - Honors/Scholars Project **Credits:** 0-1

Agricultural and Food Science Technology Electives: (6 credit hours)

See department list for courses.

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Communication/Language Competency: (9 credit hours)

Must complete language speaking courses from the Department of Modern Languages through a level three or higher in the same prefix (minimum 9 credit hours). Choose from ARAB, CHINE, FREN, GRMN, ITAL, JAPAN, LATIN, SPAN. English is not part of the Department of Modern Languages.

Economics/Business: (21 credit hours)

ACCTG, ENTRP, FINAN, MANGT, OR MKTG Elective (200-level or above)

- ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
- ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 510 - Intermediate Macroeconomics **Credits:** 3
- MANGT 220 - Principles of Management **Credits:** 3
- MANGT 590 - International Management **Credits:** 3

OR

- MKTG 325 - International Marketing **Credits:** 3

OR

- FINAN 643 - International Financial Management **Credits:** 3

Math and Statistics: (3 credit hours)

The courses with a KSC designation are required if not met through University Core Requirements.

- MATH 205 - General Calculus **Credits:** 3 *KSC-030*
- STAT 250 - Business and Economic Statistics I **Credits:** 3

Geography: (3 credit hours)

- GEOG 100 - World Geography & Globalization **Credits:** 3

International Experience Overlay

Students are required to have an approved international experience. This course may also fulfill other requirements.

Please see departmental list.

Finance Overlay: (3 credit hours)

Must take one of the following courses which can be used in other parts of the curriculum as well.

- AGEC 513 - Agricultural Finance **Credits:** 3
  OR
- FINAN 450 - Principles of Finance **Credits:** 3

Unrestricted electives as needed to meet 120 credit hours

Total Hours Required for Graduation: 120

Agricultural Economics - Farm Management (BS)

The agricultural economics program balances the theoretical and practical applications of agricultural economics to give students the best grasp on emerging issues facing professionals in food and agriculture today. Students earn a BS with a major in agricultural economics.

The Farm Management Option teaches how to apply agricultural economics to the management of the farm, ranch, or commercial feedlot. This program includes course work in livestock and crop production, agricultural technology, and agricultural economics.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Agricultural Economics: 27 credit hours

- AGEC 105 - Agricultural Economics and Agribusiness Orientation **Credits:** 1
- AGEC 115 - Decision Tools for Agricultural Economics and Agribusiness **Credits:** 2
- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3 **OR**
- AGEC 121 - Honors Agricultural Economics and Agribusiness **Credits:** 3
- AGEC 308 - Farm and Ranch Management **Credits:** 3
- AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems **Credits:** 3
- AGEC 500 - Production Economics **Credits:** 3
- AGEC 501 - Data Analysis and Optimization **Credits:** 3
- AGEC 505 - Agricultural Market Structures **Credits:** 3
- AGEC 513 - Agricultural Finance **Credits:** 3
- AGEC 598 - Farm Management Strategies **Credits:** 3

Agricultural Economics Electives: 15 credit hours

Include at least three credit hours numbered 600 or above.

No more than 3 combined total credits from AGEC 460, AGEC 751, and GENAG 515 can be used toward Ag Econ Electives.

- AGEC 411 - Agricultural Policy **Credits:** 3
- AGEC 420 - Commodity Futures **Credits:** 3
- AGEC 470 - Cooperative Management **Credits:** 3
- AGEC 515 - Food and Agribusiness Marketing **Credits:** 3
- AGEC 516 - Agricultural Law and Economics **Credits:** 3
- AGEC 520 - Market Fundamentals and Futures/Options Trading **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGEC 535 - Agricultural Sales **Credits:** 3
- AGEC 560 - Data Analytics for Agricultural Economics **Credits:** 3
- AGEC 570 - Food Manufacturing, Distribution, and Retailing Economics **Credits:** 3
- AGEC 599 - Food and Agribusiness Management Strategies **Credits:** 3

Choose at least one course from the list below:

- AGEC 605 - Price Analysis and Forecasting **Credits:** 3
- AGEC 610 - Current Agriculture and Natural Resource Policy Issues **Credits:** 3
- AGEC 615 - Global Agricultural and Economic Development **Credits:** 3
- AGEC 623 - International Agricultural Trade **Credits:** 3
- AGEC 632 - Agribusiness Logistics **Credits:** 3
- AGEC 680 - Risk Management **Credits:** 3
- AGEC 710 - Comparative Food and Agriculture Systems **Credits:** 3
- AGEC 712 - Optimization Techniques for Agricultural Economics **Credits:** 3
- ECON 631 - Principles of Transportation **Credits:** 3

Cannot take more than 3 credit hours from the courses listed below:

- AGEC 460 - International Food and Agribusiness Study Tour **Credits:** 0-6

- AGEC 751 - Risk Management Fellows Seminar **Credits:** 1
- GENAG 515 - Honors/Scholars Project **Credits:** 0-1

Agriculture: 15 credit hours

- AGRON 120 - Crop Science **Credits:** 3
- AGRON 121 - Crop Science Laboratory **Credits:** 1
- AGRON 205 - Soils **Credits:** 3
- AGRON 206 - Soils Laboratory **Credits:** 1
- ASI 102 - Principles of Animal Science **Credits:** 3
- ATM 160 - Engineered Systems and Technology in Agriculture **Credits:** 3

Select 1 credit hour

- ASI 105 - Livestock Lab **Credits:** 1
- ASI 106 - Dairy Lab **Credits:** 0.5
- ASI 107 - Companion Animal Lab **Credits:** 0.5
- ASI 108 - Poultry Lab **Credits:** 0.5
- ASI 109 - Horse Lab **Credits:** 0.5

Agricultural and Food Science Technology Electives: 6 credit hours

See department list for courses.

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Communication: 3 credit hours

Communication elective is required to be at the 300-level or above.

Courses in this block cannot be used to meet K-State Core requirements.

- COMM 311 - Business and Professional Speaking **Credits:** 3
- COMM 321 - Advanced Public Speaking **Credits:** 3
- COMM 130 - Interpersonal Communication **Credits:** 3
- COMM 323 - Nonverbal Communication **Credits:** 3
- COMM 326 - Group Communication **Credits:** 3
- COMM 535 - Communication and Leadership **Credits:** 3
- ENGL 417 - Written Communication for the Workplace **Credits:** 3
- ENGL 516 - Written Communication for the Sciences **Credits:** 3

Any Modern Language course at the 300-level or above.

Economics/Business: 12 credit hours

- ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
- ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 510 - Intermediate Macroeconomics **Credits:** 3

Math and Statistics: 3 credit hours

The courses with a KSC designation are required if not met through University Core Requirements.

Statistics

- STAT 250 - Business and Economic Statistics I **Credits:** 3

Math: Select 1 course

- MATH 205 - General Calculus **Credits:** 3
  KSC-030
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Unrestricted electives as needed to meet 120 credit hours

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Agricultural Economics - Specialty (BS)

The agricultural economics program balances the theoretical and practical applications of agricultural economics to give students the best grasp on emerging issues facing professionals in food and agriculture today. Students earn a Bachelor of Science with a major in agricultural economics.

By combining agricultural economics with another degree, minor, or pre-professional program, students can develop a program that fits their interests and career goals. Students have combined agricultural economics with political science, computer science, nutrition, journalism, statistics, animal science, agronomy, grain science, accounting, and business.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Agricultural Economics: 18 credit hours

- AGEC 105 - Agricultural Economics and Agribusiness Orientation **Credits:** 1
- AGEC 115 - Decision Tools for Agricultural Economics and Agribusiness **Credits:** 2
- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
  OR
- AGEC 121 - Honors Agricultural Economics and Agribusiness **Credits:** 3
- AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems **Credits:** 3
- AGEC 500 - Production Economics **Credits:** 3
- AGEC 501 - Data Analysis and Optimization **Credits:** 3
- AGEC 505 - Agricultural Market Structures **Credits:** 3

Agricultural Economics Electives: 21 credit hours

Include at least 6 credit hours numbered 598 or above.

No more than 3 combined total credits from AGEC 460, AGEC 751 and GENAG 515 can be used toward Ag Econ Electives.

- AGEC 308 - Farm and Ranch Management **Credits:** 3
- AGEC 318 - Food and Agribusiness Management **Credits:** 3
- AGEC 411 - Agricultural Policy **Credits:** 3
- AGEC 420 - Commodity Futures **Credits:** 3
- AGEC 470 - Cooperative Management **Credits:** 3
- AGEC 513 - Agricultural Finance **Credits:** 3
- AGEC 515 - Food and Agribusiness Marketing **Credits:** 3
- AGEC 516 - Agricultural Law and Economics **Credits:** 3
- AGEC 520 - Market Fundamentals and Futures/Options Trading **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGEC 535 - Agricultural Sales **Credits:** 3
- AGEC 560 - Data Analytics for Agricultural Economics **Credits:** 3
- AGEC 570 - Food Manufacturing, Distribution, and Retailing Economics **Credits:** 3
  Choose at least two courses (6 credit hours) at the AGEC 598 level or above.
- AGEC 598 - Farm Management Strategies **Credits:** 3
- AGEC 599 - Food and Agribusiness Management Strategies **Credits:** 3
- AGEC 605 - Price Analysis and Forecasting **Credits:** 3
- AGEC 610 - Current Agriculture and Natural Resource Policy Issues **Credits:** 3
- AGEC 615 - Global Agricultural and Economic Development **Credits:** 3
- AGEC 623 - International Agricultural Trade **Credits:** 3
- AGEC 632 - Agribusiness Logistics **Credits:** 3
- AGEC 680 - Risk Management **Credits:** 3
- AGEC 710 - Comparative Food and Agriculture Systems **Credits:** 3
- AGEC 712 - Optimization Techniques for Agricultural Economics **Credits:** 3
- ECON 631 - Principles of Transportation **Credits:** 3
  Cannot take more than 3 credit hours from the courses listed below:
- AGEC 751 - Risk Management Fellows Seminar **Credits:** 1
- AGEC 460 - International Food and Agribusiness Study Tour **Credits:** 0-6
- GENAG 515 - Honors/Scholars Project **Credits:** 0-1

Agricultural and Food Science Technology Electives: 6 credit hours

See department list for courses.

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Communication: 3 credit hours

Communication elective is required to be at the 300-level or above.

Courses in this block cannot be used to meet K-State Core requirements.

- COMM 311 - Business and Professional Speaking **Credits:** 3
- COMM 321 - Advanced Public Speaking **Credits:** 3
- COMM 130 - Interpersonal Communication **Credits:** 3
- COMM 323 - Nonverbal Communication **Credits:** 3
- COMM 326 - Group Communication **Credits:** 3
- COMM 535 - Communication and Leadership **Credits:** 3
- ENGL 417 - Written Communication for the Workplace **Credits:** 3
- ENGL 516 - Written Communication for the Sciences **Credits:** 3
  Any Modern Language course at the 300 level or above.

Economics/Business: 12 credit hours

- ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
- ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 510 - Intermediate Macroeconomics **Credits:** 3

Math and Statistics: 3 credit hours

The courses with a KSC designation are required if not met through University Core Requirements.

Statistics

- STAT 250 - Business and Economic Statistics I **Credits:** 3
  Math: Select 1 course
- MATH 205 - General Calculus **Credits:** 3
  KSC-030
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Specialty: 15 credit hours

A Specialty may be defined in generally any focus area. Typically, all 15 credit hours are from the same department/field, however, it can be possible to use credits from multiple-closely aligned fields; students should work with their advisor in defining their Specialty and courses. A Specialty will consist of 15 total credit hours with a minimum of 3 hours 300 level or above, and 6 hours 500 level or above. (Minors, Certificates, Modern Languages, and Accounting are exempt from the course level requirement). Specialty areas may include but are not limited to political science, computer science, nutrition, journalism,

statistics, animal science, agronomy, grain science, accounting, finance, business, leadership, various modern languages, pre-veterinary medicine, pre-law, natural resources and environmental sciences, and agricultural communications.

Finance Overlay: 3 credit hours

Students must take at least one of the courses below. Course can fulfil other curriculum requirements.

- AGEC 513 - Agricultural Finance **Credits:** 3
  OR
- FINAN 450 - Principles of Finance **Credits:** 3

Unrestricted electives as needed to meet 120 credit hours

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Minor

Agribusiness Minor

To earn the Agribusiness Minor students must complete the following 15 credit hours of required Ag Econ courses. In addition prerequisites associated with the minor must be followed. No more than six credit hours of transfer courses may be used for the minor requirements. Students cannot also be earning a major within the same department. **Students must earn a minimum 2.0 cum GPA in the required courses.**

Program requirements

Prerequisites (in addition to any prerequisites required for specific AGEC courses taken)

- ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
- MATH 205 - General Calculus **Credits:** 3

Choose from the following:

- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
  or
- ECON 120 - Principles of Microeconomics **Credits:** 3

Required

- AGEC 318 - Food and Agribusiness Management **Credits:** 3

- AGEC 500 - Production Economics **Credits:** 3
- AGEC 505 - Agricultural Market Structures **Credits:** 3
- AGEC 513 - Agricultural Finance **Credits:** 3

At least 3 credit hours from the following list

- AGEC 420 - Commodity Futures **Credits:** 3
- AGEC 515 - Food and Agribusiness Marketing **Credits:** 3
- AGEC 535 - Agricultural Sales **Credits:** 3

Total credit hours: (15)

Agricultural Economics Minor

To receive the Agricultural Economics minor, students must complete the following 15 credit hours of required Ag Econ courses. In addition prerequisites associated with the minor must be followed. No more than six credit hours of transfer courses may be used for the minor requirements. Students cannot also be earning a major within the same department. Students must earn a minimum 2.0 cum GPA in the required courses.

Program requirements

Prerequisites (in addition to any prerequisites required for specific AGEC courses taken)

- MATH 205 - General Calculus **Credits:** 3

Choose from the following:

- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3

or

- ECON 120 - Principles of Microeconomics **Credits:** 3

Required

- AGEC 500 - Production Economics **Credits:** 3
- AGEC 505 - Agricultural Market Structures **Credits:** 3

Select 9 credits with at least 3 credits above 500:

- AGEC 308 - Farm and Ranch Management **Credits:** 3

or

- AGEC 318 - Food and Agribusiness Management **Credits:** 3
- AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems **Credits:** 3
- AGEC 411 - Agricultural Policy **Credits:** 3
- AGEC 420 - Commodity Futures **Credits:** 3
- AGEC 470 - Cooperative Management **Credits:** 3

- AGEC 501 - Data Analysis and Optimization **Credits:** 3
- AGEC 513 - Agricultural Finance **Credits:** 3
- AGEC 515 - Food and Agribusiness Marketing **Credits:** 3
- AGEC 516 - Agricultural Law and Economics **Credits:** 3
- AGEC 520 - Market Fundamentals and Futures/Options Trading **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGEC 535 - Agricultural Sales **Credits:** 3
- AGEC 570 - Food Manufacturing, Distribution, and Retailing Economics **Credits:** 3
- AGEC 598 - Farm Management Strategies **Credits:** 3
- AGEC 599 - Food and Agribusiness Management Strategies **Credits:** 3
- AGEC 605 - Price Analysis and Forecasting **Credits:** 3
- AGEC 610 - Current Agriculture and Natural Resource Policy Issues **Credits:** 3
- AGEC 615 - Global Agricultural and Economic Development **Credits:** 3
- AGEC 623 - International Agricultural Trade **Credits:** 3
- AGEC 632 - Agribusiness Logistics **Credits:** 3
- AGEC 680 - Risk Management **Credits:** 3
- AGEC 710 - Comparative Food and Agriculture Systems **Credits:** 3
- AGEC 712 - Optimization Techniques for Agricultural Economics **Credits:** 3
- ECON 510 - Intermediate Macroeconomics **Credits:** 3
- ECON 631 - Principles of Transportation **Credits:** 3

Total credit hours: (15)

Agricultural Sales Minor

To earn the Agricultural Sales Minor students must complete the following **15 credit hours** of courses. In addition, prerequisites associated with the minor must be followed. No more than six credit hours of transfer courses may be used for the minor requirements. **Students must earn a minimum 2.0 cum GPA in the required courses.**

Program requirements

Prerequisites (in addition to any prerequisites required for specific courses taken)

Choose one of the following:

- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3
- AGEC 121 - Honors Agricultural Economics and Agribusiness **Credits:** 3
- ECON 110 - Principles of Macroeconomics **Credits:** 3

Required courses

- AGEC 515 - Food and Agribusiness Marketing **Credits:** 3
- AGEC 535 - Agricultural Sales **Credits:** 3

Choose 6-9 credits from the following list:

- AGEC 318 - Food and Agribusiness Management **Credits:** 3
- AGEC 420 - Commodity Futures **Credits:** 3
- AGEC 470 - Cooperative Management **Credits:** 3
- AGEC 570 - Food Manufacturing, Distribution, and Retailing Economics **Credits:** 3

Choose 0-3 credits from the following list:

- AGEC 632 - Agribusiness Logistics **Credits:** 3
- ASI 422 - Livestock Sales Management **Credits:** 0-1
- MKTG 250 - Introduction to Marketing **Credits:** 3
- MKTG 450 - Consumer Behavior **Credits:** 3
- SALES 300 - Fundamentals of Professional Selling **Credits:** 3
- SALES 450 - Sales Technology **Credits:** 3
- SALES 451 - Sales Force Leadership **Credits:** 3
- SALES 455 - Sales Negotiation **Credits:** 3
- SALES 457 - Cooperation Selling **Credits:** 3
- SALES 453 - Advanced Selling **Credits:** 3

Total credit hours: 15

Undergraduate Certificate

Integrated Risk Management Undergraduate Certificate

The Certificate in Integrated Risk Management is designed as a multidisciplinary specialization for students whose career interest include making business decisions involving risk. The purpose of the Certificate is to provide undergraduate Student Fellows in the Center for Risk Management Education & Research (CRMER) with the opportunity to participate in a concentrated curriculum in integrated risk management concepts, tools, and applications. The course sequence of this Certificate complements and leverages the experiential learning activities Student Fellows participate in through the CRMER.

Objectives

Upon completion of the Certificate students will be prepared to:

- Identify and prioritize the types of complex and interconnected risks present in business decision making.
- Recognize how and why different firms have divergent risk tolerances and risk management strategies.
- Effectively communicate with risk management business executives to understand the rational for risk management plans, the nature of risk assessment and prioritization, and methods used to measure and monitor risk.
- Use appropriate quantitative decision tools to identify and measure risk including stochastic simulation, decision analysis, game theory, and statistical modeling.
- Understand tools companies use to manage risk including insurance, futures and derivative markets, portfolio concepts, scenario analyses, market intelligence, and redundancy and backup systems.
- Conduct risk management research and effectively communicate risk management analyses and findings in written form and in oral presentations to business executives.

Course Requirements

The Certificate in Integrated Risk Management consists of 18 credit hours. The four core courses and elective course options are currently offered from the Departments of Agricultural Economics, Finance, and Industrial Manufacturing and Systems Engineering. All courses must be taken for a letter grade to qualify for the Certificate.

Core Courses (12 credits required)

- AGEC 680 - Risk Management **Credits:** 3
- AGEC 751 - Risk Management Fellows Seminar **Credits:** 1
  Note: Students enroll in course for 1 credit hour for 3 semesters.
- FINAN 654 - Derivative Securities and Markets **Credits:** 3
- IMSE 751 - Normative Theory of Decisions and Games **Credits:** 3

Electives Courses (6 credit hours)

6 credits required not from student's major department).

- AGEC 420 - Commodity Futures **Credits:** 3
- AGEC 520 - Market Fundamentals and Futures/Options Trading **Credits:** 3
- AGEC 605 - Price Analysis and Forecasting **Credits:** 3
- AGEC 712 - Optimization Techniques for Agricultural Economics **Credits:** 3

- FINAN 623 - Financial Modeling **Credits:** 3
- FINAN 520 - Investments **Credits:** 3
- FINAN 643 - International Financial Management **Credits:** 3
- FINAN 653 - Security and Portfolio Analysis **Credits:** 3

- IMSE 560 - Introduction to Operations Research I **Credits:** 3
  or
- IMSE 680 - Quantitative Problem Solving Techniques **Credits:** 3
- IMSE 633 - Production Planning and Inventory Control **Credits:** 3
- IMSE 641 - Quality Engineering **Credits:** 3
- IMSE 643 - Industrial Simulation **Credits:** 3

Certificate Completion Notes

- Students must be accepted and either actively engaged, or completed the program, as a Student Fellow in the Center for Risk Management Education & Research to qualify for Certificate.
- The 6 credits of Elective Courses used to fill requirements for the Certificate cannot be taken in the student's primary major department.
- Students must earn a minimum of 3.0 grade point average on courses taken in the Certificate to fulfill the requirements of the Certificate in Integrated Risk Management.
- No more than 25% of total credit hours required for the Certificate may be transfer credits.
- The Certificate is offered only to degree seeking students and is not available for non-degree seeking students.

Total credit hours: (18)

Other Program Choices

Agribusiness - Agribusiness (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
AGEC 105 - Agricultural Economics and Agribusiness Orientation	1	
AGEC 115 - Decision Tools for Agricultural Economics and Agribusiness	2	
English Requirement	3	**KSC 010**
Social & Behavioral Sciences Requirement	3	**KSC 050**
MATH 205 - General Calculus	3	**KSC 030**
AG & Food Science Technology Elective	3	
Total Credits: 15		
Semester 2		
Communication Requirement	3	**KSC 020**
Arts & Humanities Requirement	3	**KSC 060**
AGEC 120 - Agricultural Economics and Agribusiness	3	
Business Elective (ACCTG, ENTRP, FINAN, MANGT, MIS, MKTG or SALES Elective 200 level or above)	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Second Year		
Semester 1		
English Requirement	3	**KSC 010**

AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Natural and Physical Sciences Requirement	4	**KSC 040**
ECON 110 - Principles of Macroeconomics	3	**KSC 050**
Total Credits: 16		
Semester 2		
STAT 250 - Business and Economic Statistics I	3	
ACCTG 231 - Introduction to Managerial Accounting	3	
AGEC 318 - Food and Agribusiness Management	3	
Arts & Humanities Requirement	3	**KSC 060**
Free Elective	3	
Total Credits: 15		
Third Year		
Semester 1		
AGEC 500 - Production Economics	3	
AGEC 501 - Data Analysis and Optimization	3	
ACCTG 241 - Introduction to Financial Accounting	3	
MANGT 220 - Principles of Management	3	
Ag & Food Science Technology Elective	3	
Total Credits: 15		
Semester 2		
AGEC 505 - Agricultural Market Structures	3	

Ag Econ Electives	3	
AGEC 515 - Food and Agribusiness Marketing **OR**	3	
AGEC 570 - Food Manufacturing, Distribution, and Retailing Economics	3	
Free Elective	3	
Ag & Food Science Technology Elective or Business Elective	3	
Total Credits:15		
Fourth Year		
Semester 1		
Ag Econ Electives	3	
Ag Econ Electives	3	
Ag & Food Science Technology Elective or Business Elective	3	
ECON 510 - Intermediate Macroeconomics	3	
Business Elective (MANGT MKTG, ENTRP, FINAN, ACCTG, MIS, or SALES >500 level)	3	
Total Credits: 15		
Semester 2		
Communication Elective	3	
Ag Econ Electives	3	
AGEC 599 - Food and Agribusiness Management Strategies	3	
Ag Econ Electives	3	
Free Electives	2	
Total Credits: 14		
Total Program Hours: 120		

Agribusiness - Agricultural Sales (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
AGEC 105 - Agricultural Economics and Agribusiness Orientation	1	
AGEC 115 - Decision Tools for Agricultural Economics and Agribusiness	2	
English Requirement	3	**KSC 010**
Social & Behavioral Sciences Requirement	3	**KSC 050**
MATH 205 - General Calculus	3	**KSC 030**
AG & Food Science Technology Elective	3	
Total Credits: 15		
Semester 2		
Communication Requirement	3	**KSC 020**
Arts & Humanities Requirement	3	**KSC 060**
AGEC 120 - Agricultural Economics and Agribusiness	3	
MKTG 250 - Introduction to Marketing	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Second Year		
Semester 1		
English Requirement	3	**KSC 010**
AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Natural and Physical Sciences Requirement	4	**KSC 040**

ECON 110 - Principles of Macroeconomics	3	**KSC 050**
Total Credits: 16		
Semester 2		
STAT 250 - Business and Economic Statistics I	3	
ACCTG 231 - Introduction to Managerial Accounting	3	
AGEC 318 - Food and Agribusiness Management	3	
Arts & Humanities Requirement	3	**KSC 060**
Free Elective	3	
Total Credits: 15		
Third Year		
Semester 1		
AGEC 500 - Production Economics	3	
AGEC 501 - Data Analysis and Optimization	3	
ACCTG 241 - Introduction to Financial Accounting	3	
MANGT 220 - Principles of Management	3	
Ag & Food Science Technology Elective	3	
Total Credits: 15		
Semester 2		
AGEC 505 - Agricultural Market Structures	3	
AGEC 515 - Food and Agribusiness Marketing	3	
AGEC 570 - Food Manufacturing, Distribution, and Retailing Economics	3	
SALES 300 - Fundamentals of Professional Selling	3	

Communication Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
Ag Econ Electives	3		
Ag Econ Electives	3		
AGEC 535 - Agricultural Sales	3		
SALES 451 - Sales Force Leadership	3		
ECON 510 - Intermediate Macroeconomics	3		
Total credits: 15			
Semester 2			
AGEC 599 - Food and Agribusiness Management Strategies	3		
Ag Econ Electives	3		
SALES 450 - Sales Technology	3		
Free Electives	5		
Total credits: 14			
Total Program Hours:120			

Agribusiness - International (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
AGEC 105 - Agricultural Economics and Agribusiness Orientation	1	

AGEC 115 - Decision Tools for Agricultural Economics and Agribusiness	2	
English Requirement	3	**KSC 010**
MATH 205 - General Calculus	3	**KSC 030**
Ag & Food Science Technology Elective	3	
GEOG 100 - World Geography & Globalization	3	
Total credits: 15		
Semester 2		
Communication Requirement	3	**KSC 020**
Arts & Humanities Requirement	3	**KSC 060**
AGEC 120 - Agricultural Economics and Agribusiness	3	
Business Elective MANGT, MKTG, ENTRP, FINAN, ACCTG, MIS or SALES >200 level	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Second Year		
Semester 1		
English Requirement	3	**KSC 010**
AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Natural and Physical Sciences Requirement	4	**KSC 040**
ECON 110 - Principles of Macroeconomics	3	**KSC 050**
Total Credits: 16		

Semester 2		
STAT 250 - Business and Economic Statistics I	3	
ACCTG 231 - Introduction to Managerial Accounting	3	
AGEC 318 - Food and Agribusiness Management	3	
Arts & Humanities Requirement	3	**KSC 060**
Social and Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 15 hours		
Third Year		
Semester 1		
ACCTG 241 - Introduction to Financial Accounting	3	
AGEC 500 - Production Economics	3	
AGEC 501 - Data Analysis and Optimization	3	
MANGT 220 - Principles of Management	3	
Ag & Food Science Technology Elective	3	
Total credits: 15		
Semester 2		
AGEC 505 - Agricultural Market Structures	3	
AGEC 515 - Food and Agribusiness Marketing **OR**	3	
AGEC 570 - Food Manufacturing, Distribution, and Retailing Economics	3	
MKTG 325 - International Marketing **OR**	3	
MANGT 590 - International Management **OR**	3	
FINAN 643 - International Financial Management	3	
Communication/ Modern Language Elective	3	

Free Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
Ag Econ Electives	3		
AGEC 615 - Global Agricultural and Economic Development	3		
AGEC 623 - International Agricultural Trade	3		
ECON 510 - Intermediate Macroeconomics	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
AGEC 599 - Food and Agribusiness Management Strategies	3		
Ag Econ Electives	3		
Ag Econ Electives	3		
Free Elective	5		
Total Credits: 14			
Total Program Hours: 120			

Agricultural Economics - Farm Management (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
AGEC 105 - Agricultural Economics and Agribusiness Orientation	1	

AGEC 115 - Decision Tools for Agricultural Economics and Agribusiness	2	
English Requirement	3	**KSC 010**
MATH 205 - General Calculus	3	**KSC 030**
ATM 160 - Engineered Systems and Technology in Agriculture	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Semester 2		
Communication Requirement	3	**KSC 020**
Arts & Humanities Requirement	3	**KSC 060**
AGEC 120 - Agricultural Economics and Agribusiness	3	
ASI 102 - Principles of Animal Science	3	
ASI 105 - Livestock Lab **OR**	1	
ASI 106 - Dairy Lab	0.5	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Second Year		
Semester 1		
English Requirement	3	**KSC 010**
AGEC 308 - Farm and Ranch Management	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Natural and Physical Sciences Requirement	4	**KSC 040**
ECON 110 - Principles of Macroeconomics	3	**KSC 050**
Total Credits: 16		

Semester 2		
STAT 250 - Business and Economic Statistics I	3	
ACCTG 231 - Introduction to Managerial Accounting	3	
AGRON 120 - Crop Science	3	
AGRON 121 - Crop Science Laboratory	1	
Arts & Humanities Requirement	3	**KSC 060**
Free Elective	3	
Total Credits: 16		
Third Year		
Semester 1		
AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems	3	
AGEC 500 - Production Economics	3	
AGEC 501 - Data Analysis and Optimization	3	
ACCTG 241 - Introduction to Financial Accounting	3	
AGEC 513 - Agricultural Finance	3	
Total Credits: 15		
Semester 2		
AGEC 505 - Agricultural Market Structures	3	
Ag Econ Electives	3	
AGRON 205 - Soils	3	
AGRON 206 - Soils Laboratory	1	
Ag & Food Science Technology Elective	3	

Total Credits: 13		
Fourth Year		
Semester 1		
Ag Econ Electives	3	
Ag Econ Electives	3	
Ag & Food Science Technology Elective	3	
AGEC 598 - Farm Management Strategies	3	
Free Elective	3	
Total Credits: 15		
Semester 2		
Communication Elective	3	
Ag Econ Electives	3	
ECON 510 - Intermediate Macroeconomics	3	
Ag Econ Electives	3	
Free Electives	2	
Total credits: 14		
Total Program Hours: 120		

Agricultural Economics - Specialty (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
AGEC 105 - Agricultural Economics and Agribusiness Orientation	1	

AGEC 115 - Decision Tools for Agricultural Economics and Agribusiness	2	
English Requirement	3	**KSC 010**
Social & Behavioral Sciences Requirement	3	**KSC 050**
MATH 205 - General Calculus	3	**KSC 030**
Ag & Food Science Elective	3	
Total Credits: 15		
Semester 2		
Communication Requirement	3	**KSC 020**
Arts & Humanities Requirement	3	**KSC 060**
AGEC 120 - Agricultural Economics and Agribusiness	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Specialty Course	3	
Total Credits: 15		
Second Year		
Semester 1		
English Requirement	3	**KSC 010**
AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Natural & Physical Sciences Requirement	4	**KSC 040**
ECON 110 - Principles of Macroeconomics	3	**KSC 050**
Total Credits: 16		
Semester 2		

STAT 250 - Business and Economic Statistics I	3	
ACCTG 231 - Introduction to Managerial Accounting	3	
AGEC 500 - Production Economics	3	
Arts & Humanities Requirement	3	**KSC 060**
Free Elective	3	
Total Credits: 15		
Third Year		
Semester 1		
AGEC 505 - Agricultural Market Structures	3	
AGEC 501 - Data Analysis and Optimization	3	
ACCTG 241 - Introduction to Financial Accounting	3	
Ag Econ Electives	3	
Specialty Course	3	
Total Credits: 15		
Semester 2		
Ag Econ Electives	3	
Ag Econ Electives	3	
Specialty Course	3	
Specialty Course	3	
Ag & Food Science Technology Elective	3	
Total Credits: 15		
Fourth Year		

Semester 1			
Ag Econ Electives	3		
Ag Econ Electives	3		
Specialty Course	3		
ECON 510 - Intermediate Macroeconomics	3		
Free Electives	3		
Total Credits: 15			
Semester 2			
Communication Elective	3		
Ag Econ Elective	3		
Ag Econ Elective	3		
Free Electives	5		
Total Credits: 14			
Total Program Hours: 120			

Agronomy

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The Department of Agronomy provides statewide leadership in teaching, research, and extension in crop, soil, and range sciences. Weed science, crop breeding, climatology, precision agriculture, and protecting soil and water resources are also important components of the departmental mission. Advances in these sciences have major impact on transforming the bounty of the natural resources of Kansas into the present standard of living enjoyed by its people.

Agriculture is of preeminent importance to the economy of Kansas. Responsibilities of the department relate directly to the production inputs of 65,000 farms on 47.5 million acres of cropland and rangeland in the state. Many research and extension activities are conducted cooperatively with faculty at outlying research centers, in other Departments in the College of Agriculture, other Colleges at Kansas State University, and with colleagues and organizations beyond Kansas.

Agronomists use science and natural resources like soil, water, and plants to sustain the world's food supply and maintain a quality environment. Their challenge is to understand, manage, and protect earth's vital resources while addressing humanity's basic concerns about quality of life. Agronomy is basic to food production and offers an exciting career to those interested in food, feed, and fiber production.

Bachelor of Science

Agronomy - Business and Industry (BS)

Agronomy includes crop, soil, weed, range, and environmental sciences. Students in agronomy have diverse interests, including crop production and physiology; crop breeding; soil management, fertility, and conservation; soil and water quality; physical and chemical properties of soils; forages; and range management.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Agronomy (BS) - Business and Industry Option

Agronomy: 24 credit hours

- AGRON 101 - Agronomy Orientation **Credits:** 1
- AGRON 120 - Crop Science **Credits:** 3
- AGRON 121 - Crop Science Laboratory **Credits:** 1
- AGRON 205 - Soils **Credits:** 3
- AGRON 206 - Soils Laboratory **Credits:** 1
- AGRON 330 - Weed Science **Credits:** 3
- AGRON 360 - Crop Growth and Development **Credits:** 3
- AGRON 375 - Nutrient Cycling and Fertilizer Management **Credits:** 3
- AGRON 405 - Internship in Agronomy **Credits:** 0-3 *(Required to complete one internship for 3 credit hours)*

Agronomy Integration Course - Choose one (3 credit hours):

- AGRON 502 - International Experience in Agronomy **Credits:** 0-6
- AGRON 602 - Agronomy Capstone Experience **Credits:** 3
- AGRON 640 - Cropping Systems **Credits:** 3
- AGRON 655 - Site Specific Agriculture **Credits:** 3
- GENAG 582 - Natural Resources/Environmental Science Project (NRES) **Credits:** 3

Agronomy Electives: 9 credit hours

Any AGRON courses with 6 credit hours at 300-level and above.

Business & Communications: 21 credit hours

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

- Any course in ACCTG or BUS 251 or BUS 252
  Choose from Communications elective (Departmental) list: 3 credit hours
  Select one of the following:
- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3
- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
- AGEC 121 - Honors Agricultural Economics and Agribusiness **Credits:** 3
- Select 300-level and above courses from Business and Economics electives: AGEC, ACCTG, BUS, ECON, ENTRP, MANGT, MIS, MKTG, SALES: 12 credit hours.

Agriculture: 9 credit hours

- ENTOM 250 - Economic Entomology **Credits:** 3
  OR
- ENTOM 312 - General Entomology **Credits:** 3
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3
- Any 300-level and above course within the College of Agriculture or ATM or BAE.

Credits / Units: 3

Natural and Applied Sciences: 22 credit hours

If not met through K-State Core requirements, STAT 225 is required.

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

- STAT 225 - Introduction to Statistics **Credits:** 3
  KSC-030
- BIOL 198 - Principles of Biology **Credits:** 4
  Choose 1 course
- CHM 210 - Chemistry I **Credits:** 4
- CHM 220 - Honors Chemistry I **Credits:** 5
  Choose 1 course
- CHM 230 - Chemistry II **Credits:** 4
- CHM 250 - Honors Chemistry II **Credits:** 5
  Choose 1 course
- MATH 100 - College Algebra **Credits:** 3
- MATH 205 - General Calculus **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- Choose from Natural and Applied Science elective (Departmental) List: 6 credit hours (with 3 cr at 300-level and above)

Credits / Units: 6

Unrestricted Electives as needed to meet 120 credit hours.

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Agronomy - Consulting and Production (BS)

Agronomy includes crop, soil, weed, range, and environmental sciences. Students in agronomy have diverse interests, including crop production and physiology; crop breeding; soil management, fertility, and conservation; soil and water quality; physical and chemical properties of soils; forages; and range management.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Agronomy (BS) - Consulting and Production Option

Agronomy: 29 credit hours

- AGRON 101 - Agronomy Orientation **Credits:** 1
- AGRON 120 - Crop Science **Credits:** 3

- AGRON 121 - Crop Science Laboratory **Credits:** 1
- AGRON 205 - Soils **Credits:** 3
- AGRON 206 - Soils Laboratory **Credits:** 1
- AGRON 330 - Weed Science **Credits:** 3
- AGRON 360 - Crop Growth and Development **Credits:** 3
- AGRON 375 - Nutrient Cycling and Fertilizer Management **Credits:** 3
- AGRON 385 - Soil Analysis and Nutrient Recommendations **Credits:** 2
- AGRON 405 - Internship in Agronomy **Credits:** 0-3 *(Required to complete one internship for 3 credit hours)*
- AGRON 650 - Integrated Weed Management **Credits:** 3

Agronomy Integration Course - Choose one for 3 cr:

- AGRON 502 - International Experience in Agronomy **Credits:** 0-6
- AGRON 602 - Agronomy Capstone Experience **Credits:** 3
- AGRON 640 - Cropping Systems **Credits:** 3
- AGRON 655 - Site Specific Agriculture **Credits:** 3
- GENAG 582 - Natural Resources/Environmental Science Project (NRES) **Credits:** 3

Agronomy Electives: 6 credit hours

Any AGRON courses with at least 3 credit hours at 300-level or above.

Business & Communications: 9 credit hours

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

- Any course in ACCTG or BUS 251 or BUS 252

OR

- AGEC 308 - Farm and Ranch Management **Credits:** 3
- Choose from Communications elective (Departmental) list: 3 credit hours

Select one of the following:

- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
- AGEC 121 - Honors Agricultural Economics and Agribusiness **Credits:** 3
- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3

Agriculture: 10 credit hours

- ENTOM 250 - Economic Entomology **Credits:** 3

OR

- ENTOM 312 - General Entomology **Credits:** 3
- ENTOM 612 - Insect Pest Diagnosis **Credits:** 2
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3

- PLPTH 585 - Crop Diseases **Credits:** 2

Agriculture Electives: 9 credit hours

Any courses within the College of Agriculture (excluding AGTEC and FFM) or ATM or BAE with 6 cr hours at 300-level or above.

Natural and Applied Sciences: 22 credit hours

If not met through K-State Core requirements, STAT 225 is required.

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

- STAT 225 - Introduction to Statistics **Credits:** 3
  KSC-030
- BIOL 198 - Principles of Biology **Credits:** 4
  Choose 1 course
- CHM 210 - Chemistry I **Credits:** 4
- CHM 220 - Honors Chemistry I **Credits:** 5
  Choose 1 course
- CHM 230 - Chemistry II **Credits:** 4
- CHM 250 - Honors Chemistry II **Credits:** 5
  Choose 1 course
- MATH 100 - College Algebra **Credits:** 3
- MATH 205 - General Calculus **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- Choose from Natural and Applied Science electives (Departmental) List.: 6 credit hours (at least 3 cr at 300-level or above)

Unrestricted Electives as needed to meet 120 credit hours

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Agronomy - Plant Science and Biotechnology (BS)

Agronomy includes crop, soil, weed, range, and environmental sciences. Students in agronomy have diverse interests, including crop production and physiology; crop breeding; soil management, fertility, and conservation; soil and water quality; physical and chemical properties of soils; forages; and range management.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Programs

Agronomy: 30 credit hours

- AGRON 101 - Agronomy Orientation **Credits:** 1
- AGRON 120 - Crop Science **Credits:** 3
- AGRON 121 - Crop Science Laboratory **Credits:** 1
- AGRON 205 - Soils **Credits:** 3
- AGRON 206 - Soils Laboratory **Credits:** 1
- AGRON 330 - Weed Science **Credits:** 3
- AGRON 360 - Crop Growth and Development **Credits:** 3
- AGRON 375 - Nutrient Cycling and Fertilizer Management **Credits:** 3
- AGRON 610 - Biotechnology **Credits:** 3
- AGRON 630 - Crop Improvement and Biotechnology **Credits:** 3
- AGRON 405 - Internship in Agronomy **Credits:** 0-3 *(Required to complete one internship for 3 credit hours)*

Agronomy Integration Course - Choose one (3 credit hours):

- AGRON 502 - International Experience in Agronomy **Credits:** 0-6
- AGRON 602 - Agronomy Capstone Experience **Credits:** 3
- AGRON 640 - Cropping Systems **Credits:** 3
- AGRON 655 - Site Specific Agriculture **Credits:** 3
- GENAG 582 - Natural Resources/Environmental Science Project (NRES) **Credits:** 3

Agronomy Electives: 3 credit hours

Any AGRON course at 300-level or above.

Business and Communications: 9 credit hours

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

- AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems **Credits:** 3
- Choose from Communications elective (Departmental) list: 3 credit hours

Select one of the following:

- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3

- AGEC 121 - Honors Agricultural Economics and Agribusiness **Credits:** 3
- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3

Agriculture: 6 credit hours

- ENTOM 250 - Economic Entomology **Credits:** 3
  OR
- ENTOM 312 - General Entomology **Credits:** 3
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3

Natural and Applied Sciences: 33-40 credit hours

If not met through K-State Core requirements, STAT 225 is required.

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

- STAT 225 - Introduction to Statistics **Credits:** 3
  KSC-030
- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 500 - Plant Physiology **Credits:** 3
- BIOL 501 - Plant Physiology Lab **Credits:** 1
  Choose 1 course
- CHM 210 - Chemistry I **Credits:** 4
- CHM 220 - Honors Chemistry I **Credits:** 5
  Choose 1 course
- CHM 230 - Chemistry II **Credits:** 4
- CHM 250 - Honors Chemistry II **Credits:** 5
  Choose 1 course
- MATH 100 - College Algebra **Credits:** 3
- MATH 205 - General Calculus **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
  Choose 1 course
- PHYS 113 - General Physics I **Credits:** 4
- PHYS 213 - Engineering Physics I **Credits:** 5
  Choose 1 course
- ASI 500 - Genetics **Credits:** 3
- BIOL 398 - Principles of Genetics **Credits:** 4
  Choose 1 course
- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
- CHM 350 - General Organic Chemistry **Credits:** 3
- CHM 531 - Organic Chemistry I **Credits:** 3
  Choose 1 course: Natural and Applied Science electives (Departmental) List: 3 credit hours

Unrestricted Electives as needed to meet 120 Credit Hours

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Agronomy - Precision Agriculture (BS)

Agronomy includes crop, soil, weed, range, and environmental sciences. Students in agronomy have diverse interests, including crop production and physiology; crop breeding; soil management, fertility, and conservation; soil and water quality; physical and chemical properties of soils; forages; and range management.

Kansas State University Core: 34-36 Credit Hours

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The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Agronomy (BS) - Precision Agriculture option

Agronomy: 32 credit hours

- AGRON 101 - Agronomy Orientation **Credits:** 1
- AGRON 120 - Crop Science **Credits:** 3
- AGRON 121 - Crop Science Laboratory **Credits:** 1
- AGRON 202 - Introduction to Precision Ag Software **Credits:** 3
- AGRON 205 - Soils **Credits:** 3
- AGRON 206 - Soils Laboratory **Credits:** 1
- AGRON 330 - Weed Science **Credits:** 3
- AGRON 360 - Crop Growth and Development **Credits:** 3
- AGRON 375 - Nutrient Cycling and Fertilizer Management **Credits:** 3
- AGRON 385 - Soil Analysis and Nutrient Recommendations **Credits:** 2
- AGRON 665 - Soil Genesis and Classification **Credits:** 3
- AGRON 655 - Site Specific Agriculture **Credits:** 3
- AGRON 405 - Internship in Agronomy **Credits:** 0-3 *(Required to complete one internship for 3 credit hours)*

Agronomy Electives: 6 credit hours

Select two of the following:

- AGRON 335 - Environmental Quality **Credits:** 3

- AGRON 446 - Introduction to Environmental Soil Physics **Credits:** 3
- AGRON 640 - Cropping Systems **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AGRON 650 - Integrated Weed Management **Credits:** 3

Business and Communications: 6 credit hours

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Choose from Communications elective (Departmental) list: 3 credit hours
Choose one of the following:

- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
- AGEC 121 - Honors Agricultural Economics and Agribusiness **Credits:** 3
- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3

Agriculture: 9 credit hours

- ENTOM 250 - Economic Entomology **Credits:** 3
  OR
- ENTOM 312 - General Entomology **Credits:** 3
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3
- ATM 550 - Precision Agriculture Technologies **Credits:** 3

Agriculture Electives: 3 credit hours

Any course within the College of Agriculture (excluding AGTEC and FFM) or ATM or BAE.

Natural and Applied Sciences: 27-34 credit hours

If not met through K-State Core requirements, STAT 225 is required.

- STAT 225 - Introduction to Statistics **Credits:** 3
  KSC-030
- BIOL 198 - Principles of Biology **Credits:** 4
- GEOG 508 - Geographic Information Systems I **Credits:** 4
  Choose 1 course
- CHM 210 - Chemistry I **Credits:** 4
- CHM 220 - Honors Chemistry I **Credits:** 5
  Choose 1 course
- CHM 230 - Chemistry II **Credits:** 4
- CHM 250 - Honors Chemistry II **Credits:** 5
  Choose 1 group
- MATH 100 - College Algebra **Credits:** 3
  AND
- MATH 150 - Plane Trigonometry **Credits:** 3
- MATH 205 - General Calculus **Credits:** 3

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Choose 1 course

- PHYS 113 - General Physics I **Credits:** 4
- PHYS 213 - Engineering Physics I **Credits:** 5

Choose 1 course

- GEOG 302 - Cartography and Thematic Mapping **Credits:** 3
- GEOG 605 - Remote Sensing of the Environment **Credits:** 3
- GEOG 608 - Geographic Information Systems II **Credits:** 3
- UAS 270 - Introduction to UAS **Credits:** 3

Unrestricted Electives as needed to meet 120 Credit Hours

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Agronomy - Range Management (BS)

Agronomy includes crop, soil, weed, range, and environmental sciences. Students in agronomy have diverse interests, including crop production and physiology; crop breeding; soil management, fertility, and conservation; soil and water quality; physical and chemical properties of soils; forages; and range management.

Kansas State University Core: 34-36 Credit Hours

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General Education: K-State Core

Agronomy (BS) - Range Management option

Agronomy: 33 credit hours

- AGRON 101 - Agronomy Orientation **Credits:** 1
- AGRON 120 - Crop Science **Credits:** 3
- AGRON 121 - Crop Science Laboratory **Credits:** 1

- AGRON 205 - Soils **Credits:** 3
- AGRON 206 - Soils Laboratory **Credits:** 1
- AGRON 251 - Range Management **Credits:** 3
- AGRON 260 - Field Identification of Range and Pasture Plants **Credits:** 1
- AGRON 380 - Introduction to Grassland Monitoring and Assessment **Credits:** 2
- AGRON 381 - Introduction to Grassland Monitoring and Assessment Lab **Credits:** 1
- AGRON 462 - Range Grasses **Credits:** 2
- AGRON 490 - Introduction to Range Management Planning **Credits:** 3
- AGRON 665 - Soil Genesis and Classification **Credits:** 3
- AGRON 670 - Range Management Problems **Credits:** 1-18 *(Required to complete one Range Management Problems course for 3 credits)*
- AGRON 681 - Range Ecology **Credits:** 3

Agronomy Integration Course - Choose one: Credits / Units: 3

- AGRON 502 - International Experience in Agronomy **Credits:** 0-6
- AGRON 602 - Agronomy Capstone Experience **Credits:** 3
- AGRON 640 - Cropping Systems **Credits:** 3
- AGRON 655 - Site Specific Agriculture **Credits:** 3
- GENAG 582 - Natural Resources/Environmental Science Project (NRES) **Credits:** 3

Business and Communications: 6 credit hours

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Choose from Communications elective (Departmental) list: 3 credit hours

Choose one of the following:

- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
- AGEC 121 - Honors Agricultural Economics and Agribusiness **Credits:** 3
- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3

Agriculture: 9 credit hours

- ASI 102 - Principles of Animal Science **Credits:** 3
- ASI 515 - Beef Science **Credits:** 3

Select 3 credit hours

- ENTOM 250 - Economic Entomology **Credits:** 3
- ENTOM 305 - Animal Health Entomology **Credits:** 2
- ENTOM 306 - Animal Health Entomology Laboratory **Credits:** 1
- ENTOM 312 - General Entomology **Credits:** 3

Natural and Applied Sciences: 35-40 credit hours

If not met through K-State Core requirements, STAT 225 is required.

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

- STAT 225 - Introduction to Statistics **Credits:** 3

KSC-030

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 500 - Plant Physiology **Credits:** 3
- GEOL 100 - Earth in Action **Credits:** 3
- BIOL 551 - Taxonomy of Flowering Plants **Credits:** 4

Choose 1 course

- CHM 210 - Chemistry I **Credits:** 4
- CHM 220 - Honors Chemistry I **Credits:** 5

Choose 1 course

- CHM 230 - Chemistry II **Credits:** 4
- CHM 250 - Honors Chemistry II **Credits:** 5

Choose 1 course

- MATH 100 - College Algebra **Credits:** 3
- MATH 205 - General Calculus **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Choose 1 course

- BIOL 504 - Plant Ecology **Credits:** 3
- BIOL 529 - Ecology **Credits:** 3

Choose 1 course

- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
- CHM 350 - General Organic Chemistry **Credits:** 3
- CHM 531 - Organic Chemistry I **Credits:** 3

Choose 1 course from Natural and Applied Science electives (Departmental) List.: 3 credit hours at 300-level or above.

Unrestricted Electives as needed to meet 120 Credit Hours

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Agronomy - Soil and Environmental Sciences (BS)

Agronomy includes crop, soil, weed, range, and environmental sciences. Students in agronomy have diverse interests, including crop production and physiology; crop breeding; soil management, fertility, and conservation; soil and water quality; physical and chemical properties of soils; forages; and range management.

Kansas State University Core: 34-36 Credit Hours

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general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program

Agronomy: 33 credit hours

- AGRON 101 - Agronomy Orientation **Credits:** 1
- AGRON 120 - Crop Science **Credits:** 3
- AGRON 121 - Crop Science Laboratory **Credits:** 1
- AGRON 205 - Soils **Credits:** 3
- AGRON 206 - Soils Laboratory **Credits:** 1
- AGRON 335 - Environmental Quality **Credits:** 3
- AGRON 375 - Nutrient Cycling and Fertilizer Management **Credits:** 3
- AGRON 405 - Internship in Agronomy **Credits:** 0-3 *(Required to complete one internship for 3 credits)*
- AGRON 446 - Introduction to Environmental Soil Physics **Credits:** 3
- AGRON 605 - Soil and Environmental Chemistry **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AGRON 665 - Soil Genesis and Classification **Credits:** 3

Agronomy Integration Course - Choose one for 3 credits:

- AGRON 502 - International Experience in Agronomy **Credits:** 0-6
- AGRON 602 - Agronomy Capstone Experience **Credits:** 3
- AGRON 640 - Cropping Systems **Credits:** 3
- AGRON 655 - Site Specific Agriculture **Credits:** 3
- GENAG 582 - Natural Resources/Environmental Science Project (NRES) **Credits:** 3

Agronomy Electives: 3 credit hours

Any AGRON course 300-level or above.

Business and Communications: 6 credit hours

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Choose from Communications elective (Departmental) list: 3 credit hours

Choose one of the following:

- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
- AGEC 121 - Honors Agricultural Economics and Agribusiness **Credits:** 3
- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3

Agriculture Electives: 6 credit hours

Any courses within the College of Agriculture (excluding AGTEC and FFM) or ATM or BAE, with 3 credits at 300-level or above.

Natural and Applied Sciences: 35-38 credit hours

If not met through K-State Core requirements, STAT 225 is required.

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

- STAT 225 - Introduction to Statistics **Credits:** 3
  KSC-030
- BIOL 198 - Principles of Biology **Credits:** 4
- GEOL 100 - Earth in Action **Credits:** 3
- GEOL 103 - Geology Laboratory **Credits:** 1
  Choose 1 course
- CHM 210 - Chemistry I **Credits:** 4
- CHM 220 - Honors Chemistry I **Credits:** 5
  Choose 1 course
- CHM 230 - Chemistry II **Credits:** 4
- CHM 250 - Honors Chemistry II **Credits:** 5
  Choose 1 group
- MATH 100 - College Algebra **Credits:** 3
  AND
- MATH 150 - Plane Trigonometry **Credits:** 3
- MATH 205 - General Calculus **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
  Select courses from Natural and Applied Science elective
  See Departmental List:
  12 credit hours (select 9 cr hr at 300-level or above).

Unrestricted Electives as needed to meet 120 credit hours.

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Minor

Agronomy Minor

Students enrolled in any primary undergraduate major (or completed, or non-degree seeking student) will be admitted by filing a notice of intent with the Agronomy Department's teaching office. Intent to complete a minor should be filed prior to enrollment in the final nine credit hours of course work. No more than seven hours of transfer courses may be used for the minor. Prerequisites and requisites associated with courses for the minor must be followed.

Program requirements

To earn an undergraduate minor in agronomy, students are required to complete 16 or 17 credit hours consisting of the following courses:

- AGRON 205 - Soils **Credits:** 3
  AND
- AGRON 206 - Soils Laboratory **Credits:** 1

Choose from the following:

- AGRON 120 - Crop Science **Credits:** 3
  OR
- AGRON 251 - Range Management **Credits:** 3

Note

An additional 9 credit hours of agronomy courses numbered 202 or greater (not including AGRON 405), selected by the student in consultation with an agronomy advisor.

Total credit hours: (16-17)

Other Program Choices

Agronomy - Business and Industry (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
AGRON 101 - Agronomy Orientation	1		
AGRON 120 - Crop Science	3	**KSC 040**	
AGRON 121 - Crop Science Laboratory	1	**KSC 040**	
CHM 210 - Chemistry I	4		
English Requirement	3	**KSC 010**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Select one of the following:			
AGEC 120 - Agricultural Economics and Agribusiness	3		
AGEC 121 - Honors Agricultural Economics and Agribusiness	3		

ECON 110 - Principles of Macroeconomics	3		
ECON 120 - Principles of Microeconomics	3		
Total Credits: 15			
Semester 2			
AGRON 205 - Soils	3		
AGRON 206 - Soils Laboratory	1		
Natural and Applied Sciences elective	1		
Communications Requirement	3	**KSC 020**	
STAT 225 - Introduction to Statistics	3	**KSC 030**	
CHM 230 - Chemistry II	4		
Total Credits: 15			
Second Year			
Semester 1			
BIOL 198 - Principles of Biology	4		
MATH 100 - College Algebra	3		
AGRON 360 - Crop Growth and Development	3		
Arts and Humanities Requirement	3	**KSC 060**	
English Requirement	3	**KSC 010**	
Total Credits:16			
Semester 2			
ENTOM 250 - Economic Entomology **OR**	3		
ENTOM 312 - General Entomology	3		

Any course in ACCTG	3		
Business & Communications Elective	3		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Third Year			
Semester 1			
AGRON 330 - Weed Science	3		
AGRON 405 - Internship in Agronomy	0-3		
Must complete one internship for 3 cr			
Natural & Applied Sciences Elective	3		
Natural & Applied Sciences Elective	3		
Business & Communications Elective	3		
Total Credits: 15			
Semester 2			
AGRON 375 - Nutrient Cycling and Fertilizer Management	3		
PLPTH 500 - Principles of Plant Pathology	3		
Agricultural Electives	3		
Business & Communications Elective	3		
Business & Communications Elective	3		
Total Credits: 15			
Fourth Year			

Semester 1			
Agronomy Electives	3		
Business and Communications Elective	3		
Unrestricted Electives	6		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Semester 2			
Agronomy Electives	3		
Agronomy Electives	3		
Unrestricted Electives	2		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Agronomy Integration Course	3		
Total Credits: 14			
Total Program Hours: 120			

Agronomy - Consulting and Production (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
AGRON 101 - Agronomy Orientation	1		
AGRON 120 - Crop Science	3	**KSC 040**	
AGRON 121 - Crop Science Laboratory	1	**KSC 040**	
CHM 210 - Chemistry I	4		
English Requirement	3	**KSC 010**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	

Choose from the list below:			
AGEC 120 - Agricultural Economics and Agribusiness	3		
AGEC 121 - Honors Agricultural Economics and Agribusiness	3		
ECON 110 - Principles of Macroeconomics	3		
ECON 120 - Principles of Microeconomics	3		
Total Credits: 15			
Semester 2			
AGRON 205 - Soils	3		
AGRON 206 - Soils Laboratory	1		
Natural and Applied Sciences elective	1		
Communications Requirement	3	**KSC 020**	
CHM 230 - Chemistry II	4		
STAT 225 - Introduction to Statistics	3	**KSC 030**	
Total Credits: 15			
Second Year			
Semester 1			
AGRON 330 - Weed Science	3		
AGRON 360 - Crop Growth and Development	3		
MATH 100 - College Algebra	3		
English Requirement	3	**KSC 010**	
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 15			

Semester 2			
BIOL 198 - Principles of Biology	4		
AGEC 308 - Farm and Ranch Management **OR**	3		
Any course in ACCTG for 3 cr.	3		
ENTOM 250 - Economic Entomology **OR**	3		
ENTOM 312 - General Entomology	3		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 16			
Third Year			
Semester 1			
AGRON 405 - Internship in Agronomy	0-3		
complete one internship for 3 cr.			
Natural & Applied Sciences Elective	3		
Natural & Applied Sciences Elective	3		
Business & Communications Elective	3		
Agricultural Electives	3		
Total Credits: 15			
Semester 2			
AGRON 375 - Nutrient Cycling and Fertilizer Management	3		
PLPTH 500 - Principles of Plant Pathology	3		
Agronomy Electives	3		
Agricultural Electives	3		

Agricultural Electives	3		
Total Credits: 15			
Fourth Year			
Semester 1			
ENTOM 612 - Insect Pest Diagnosis	2		
PLPTH 585 - Crop Diseases	2		
Agronomy Electives	3		
Agricultural Electives	8		
Total Credits: 15			
Semester 2			
AGRON 650 - Integrated Weed Management	3		
AGRON 385 - Soil Analysis and Nutrient Recommendations	2		
Agronomy Integration Course	3		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 14			
Total Program Hours: 120			

Agronomy - Plant Science and Biotechnology (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
AGRON 101 - Agronomy Orientation	1		

AGRON 120 - Crop Science	3	**KSC 040**	
AGRON 121 - Crop Science Laboratory	1	**KSC 040**	
CHM 210 - Chemistry I	4		
English Requirement	3	**KSC 010**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Choose One Course Below:			
AGEC 120 - Agricultural Economics and Agribusiness	3		
AGEC 121 - Honors Agricultural Economics and Agribusiness	3		
ECON 110 - Principles of Macroeconomics	3		
ECON 120 - Principles of Microeconomics	3		
Total Credits: 15			
Semester 2			
AGRON 205 - Soils	3		
AGRON 206 - Soils Laboratory	1		
CHM 230 - Chemistry II	4		
STAT 225 - Introduction to Statistics	3	**KSC 030**	
Natural and Applied Sciences elective	1		
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Second Year			
Semester 1			
BIOL 198 - Principles of Biology	4		
MATH 100 - College Algebra	3		

English Requirement	3	**KSC 010**
Communications Requirement	3	**KSC 020**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Semester 2		
PHYS 113 - General Physics I	4	
AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Agronomy Elective	3	
ENTOM 250 - Economic Entomology **OR**	3	
ENTOM 312 - General Entomology	3	
Total Credits: 16		
Third Year		
Semester 1		
AGRON 330 - Weed Science	3	
AGRON 360 - Crop Growth and Development	3	
AGRON 405 - Internship in Agronomy	0-3	
Must complete one internship for 3 cr		
ASI 500 - Genetics	3	
BIOL 500 - Plant Physiology	3	
BIOL 501 - Plant Physiology Lab	1	
Total Credits: 16		

Semester 2		
AGRON 375 - Nutrient Cycling and Fertilizer Management	3	
PLPTH 500 - Principles of Plant Pathology	3	
Business and Communications Elective	3	
Select one of the following:		
CHM 350 - General Organic Chemistry **OR**	3	
CHM 531 - Organic Chemistry I **OR**	3	
BIOCH 265 - Introductory Organic and Biochemistry	5	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Fourth Year		
Semester 1		
AGRON 610 - Biotechnology	3	
Natural & Applied Sciences Elective	3	
Unrestricted Electives	6	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
AGRON 630 - Crop Improvement and Biotechnology	3	
Agronomy Integration Elective	3	
Unrestricted Electives	6	
Total Credits: 12		

Total Program Hours: 120			

Agronomy - Precision Agriculture (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
AGRON 101 - Agronomy Orientation	1		
AGRON 120 - Crop Science	3	**KSC 040**	
AGRON 121 - Crop Science Laboratory	1	**KSC 040**	
CHM 210 - Chemistry I	4		
English Requirement	3	**KSC 010**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Choose One Course Below:			
AGEC 120 - Agricultural Economics and Agribusiness	3		
AGEC 121 - Honors Agricultural Economics and Agribusiness	3		
ECON 110 - Principles of Macroeconomics	3		
ECON 120 - Principles of Microeconomics	3		
Total Credits: 15			
Semester 2			
AGRON 205 - Soils	3		
AGRON 206 - Soils Laboratory	1		
Natural and Applied Sciences elective	1		
Communications Requirement	3	**KSC 020**	
CHM 230 - Chemistry II	4		
STAT 225 - Introduction to Statistics	3	**KSC 030**	

Total Credits: 15			
Second Year			
Semester 1			
AGRON 202 - Introduction to Precision Ag Software	3		
MATH 100 - College Algebra	3		
English Requirement	3	**KSC 010**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Arts and Humanitites Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
MATH 150 - Plane Trigonometry	3		
BIOL 198 - Principles of Biology	4		
ENTOM 250 - Economic Entomology **OR**	3		
ENTOM 312 - General Entomology	3		
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 13			
Third Year			
Semester 1			
AGRON 330 - Weed Science	3		
AGRON 360 - Crop Growth and Development	3		
PHYS 113 - General Physics I	4		
GEOG 508 - Geographic Information Systems I	4		

AGRON 405 - Internship in Agronomy	0-3		
Must complete one internship for 3 cr			
Total Credits: 17			
Semester 2			
AGRON 375 - Nutrient Cycling and Fertilizer Management	3		
AGRON 665 - Soil Genesis and Classification	3		
PLPTH 500 - Principles of Plant Pathology	3		
Business and Communications Elective	3		
Natural and Appled Science Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
ATM 550 - Precision Agriculture Technologies	3		
Agronomy Electives	3		
Agricultural Electives	3		
Unrestricted Electives	3		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Semester 2			
AGRON 655 - Site Specific Agriculture	3		
AGRON 385 - Soil Analysis and Nutrient Recommendations	2		
Agronomy Electives	3		

Unrestricted Electives	4		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Total Program Hours: 120			

Agronomy - Range Management (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
AGRON 101 - Agronomy Orientation	1		
AGRON 120 - Crop Science	3	**KSC 040**	
AGRON 121 - Crop Science Laboratory	1	**KSC 040**	
ASI 102 - Principles of Animal Science	3		
CHM 210 - Chemistry I	4		
English Requirement	3	**KSC 010**	
Total Credits: 15			
Semester 2			
AGRON 205 - Soils	3		
AGRON 206 - Soils Laboratory	1		
Natural and Applied Sciences elective	1		
Communications Requirement	3	**KSC 020**	
STAT 225 - Introduction to Statistics	3	**KSC 030**	
CHM 230 - Chemistry II	4		
Total Credits: 15			

Second Year			
Semester 1			
AGRON 251 - Range Management	3		
BIOL 198 - Principles of Biology	4		
English Requirements	3	**KSC 010**	
Arts and Humanities Requirement	3	**KSC 060**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Choose One Course Below:			
AGEC 120 - Agricultural Economics and Agribusiness	3		
AGEC 121 - Honors Agricultural Economics and Agribusiness	3		
ECON 110 - Principles of Macroeconomics	3		
ECON 120 - Principles of Microeconomics	3		
Total Credits: 16			
Semester 2			
MATH 100 - College Algebra	3		
GEOL 100 - Earth in Action	3		
Select one of the following:			
ENTOM 250 - Economic Entomology **OR**	3		
ENTOM 312 - General Entomology **OR**	3		
ENTOM 305 - Animal Health Entomology **AND**	2		
ENTOM 306 - Animal Health Entomology Laboratory	1		
Social & Behavioral Sciences Requirements	3	**KSC 050**	
Arts & Humanities Requirements	3	**KSC 060**	

Total Credits: 15			
Third Year			
Semester 1			
AGRON 380 - Introduction to Grassland Monitoring and Assessment	2		
AGRON 381 - Introduction to Grassland Monitoring and Assessment Lab	1		
AGRON 462 - Range Grasses	2		
BIOL 551 - Taxonomy of Flowering Plants	4		
Natural and Applied Sciences Electives	3		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Semester 2			
AGRON 490 - Introduction to Range Management Planning	3		
AGRON 665 - Soil Genesis and Classification	3		
Business & Communications Elective	3		
Select one of the following:			
BIOCH 265 - Introductory Organic and Biochemistry **OR**	5		
CHM 350 - General Organic Chemistry **OR**	3		
CHM 531 - Organic Chemistry I	3		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Fourth Year			
Semester 1			

AGRON 260 - Field Identification of Range and Pasture Plants	1		
ASI 515 - Beef Science	3		
BIOL 500 - Plant Physiology	3		
AGRON 670 - Range Management Problems	1-18		
Must complete one Range Management Problem for 3 cr			
Select one of the following:			
BIOL 504 - Plant Ecology **OR**	3		
BIOL 529 - Ecology	3		
Unrestricted Electives	3		
Total Credits: 16			
Semester 2			
AGRON 681 - Range Ecology	3		
Agronomy Integration Elective	3		
Unrestricted Electives	7		
Total Credits: 13			
Total Program Hours: 120			

Agronomy - Soil and Environmental Sciences (BS) Academic Degree Map

First Year			
Semester 1	**Hours**	**K-State Core**	
AGRON 101 - Agronomy Orientation	1		
AGRON 120 - Crop Science	3	**KSC 040**	
AGRON 121 - Crop Science Laboratory	1	**KSC 040**	

CHM 210 - Chemistry I	4		
English Requirement	3	**KSC 010**	
Social & Behavioral Sciences Requirement:	3	**KSC 050**	
Choose From One Course Below:			
AGEC 120 - Agricultural Economics and Agribusiness	3		
AGEC 121 - Honors Agricultural Economics and Agribusiness	3		
ECON 110 - Principles of Macroeconomics	3		
ECON 120 - Principles of Microeconomics	3		
Total Credits: 15			
Semester 2			
AGRON 205 - Soils	3		
AGRON 206 - Soils Laboratory	1		
Natural and Applied Sciences elective	1		
Communications Requirement	3	**KSC 020**	
STAT 225 - Introduction to Statistics	3	**KSC 030**	
CHM 230 - Chemistry II	4		
Total Credits: 15			
Second year			
Semester 1			
MATH 100 - College Algebra	3		
GEOL 100 - Earth in Action	3		
GEOL 103 - Geology Laboratory	1		
English Requirement	3	**KSC 010**	

Social & Behavioral Sciences Requirement	3	**KSC 050**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 16			
Semester 2			
AGRON 375 - Nutrient Cycling and Fertilizer Management	3		
MATH 150 - Plane Trigonometry	3		
BIOL 198 - Principles of Biology	4		
Arts & Humanities Requirement	3	**KSC 060**	
Business and Communications Elective	3		
Total Credits: 16			
Third Year			
Semester 1			
AGRON 335 - Environmental Quality	3		
AGRON 405 - Internship in Agronomy `	0-3		
Must complete one internship for 3 cr			
Agricultural Elective	3		
Natural & Applied Sciences Elective	3		
Natural & Applied Sciences Elective	3		
Total Credits: 15			
Semester 2			
AGRON 605 - Soil and Environmental Chemistry	3		
AGRON 665 - Soil Genesis and Classification	3		

Natural & Applied Sciences Elective	3		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Unrestricted Electives	3		
Total Credits: 15			
Fourth Year			
Semester 1			
AGRON 645 - Soil Microbiology	3		
Agronomy Electives	3		
Agricultural Electives	3		
Natural and Applied Sciences Elective	3		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Semester 2			
AGRON 446 - Introduction to Environmental Soil Physics	3		
Agronomy Integration Elective	3		
Unrestricted Electives	7		
Total Credits: 13			
Total Programs Hours: 120			

Animal Sciences and Industry

Michael Day, Department Head

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The K-State ASI department serves students, livestock producers and the animal and food industries through teaching, research and education. KSU ASI prepares students for careers in the animal and food industries. The curriculum includes the study of nutrition, reproduction, genetics, behavior, meat science and dairy processing with production, management, and agribusiness skills.

Bachelor of Science

Animal Sciences and Industry - Management/Industry (BS)

The Animal Sciences and Industry major prepares students for a variety of careers related to animal care and production. Students may continue their education in veterinary or graduate school or start their careers in areas like animal health, nutrition, breeding and genetics, reproduction, meat science, or milk processing within the industry, education, or government. Coursework focuses on the science and business of raising animals, with an emphasis on domesticated animals of importance to the lives of Kansans. There are two options of study to choose from based on a student's target career: Prevet/Science or Management/Industry, both of which are available on the Manhattan campus or online.

The ASI major is housed in the Northeast corner of the main Manhattan campus, but its reach is far beyond classrooms, offices, and laboratories located in Weber Hall and Call Hall. The Department maintains teaching and research units within two miles of campus, where students take courses and apply concepts with hands-on education. There are separate units and farms for horses, sheep and meat goats, swine, dairy, poultry, purebred beef cattle, cow/calf, stocker cattle, and feedlot cattle. Animal products are further processed on campus through the Department's meats and milk processing facilities. Finally, the ASI Dept. enjoys a collaborative relationship with the College of Veterinary Medicine, other Departments in the College, and its stakeholders so students can gain experience in the veterinary health center, feed mill and pet food processing facilities, and state/federal government facilities all located within a few miles of campus.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Science and Math: 8-9 credit hours

The courses with a KSC designation are required if not met through University Core Requirements.

- BIOL 198 - Principles of Biology **Credits:** 4

Select 4 credit hours

- CHM 110 - General Chemistry **Credits:** 3
- CHM 111 - General Chemistry Laboratory **Credits:** 1
- CHM 210 - Chemistry I **Credits:** 4
- CHM 220 - Honors Chemistry I **Credits:** 5

Select 1 course

KSC-030

- MATH 100 - College Algebra **Credits:** 3
- MATH 205 - General Calculus **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Animal Science Courses: 44-45 credit hours

Animal Science Foundations: 0-1 credit hours

- ASI 101 - Foundations in Animal Sciences & Industry **Credits:** 1

OR

- ASI 301 - Transfer Foundations in ASI **Credits:** 0

Animal Science Courses: 19 credit hours

- ASI 102 - Principles of Animal Science **Credits:** 3
- ASI 105 - Livestock Lab **Credits:** 1
- ASI 106 - Dairy Lab **Credits:** 0.5
- ASI 107 - Companion Animal Lab **Credits:** 0.5
- ASI 108 - Poultry Lab **Credits:** 0.5
- ASI 109 - Horse Lab **Credits:** 0.5
- ASI 150 - Anatomy and Physiology of Domestic Animals **Credits:** 3
- ASI 202 - Domestic Animal Nutrition **Credits:** 3
- ASI 300 - Animal Sciences and Industry Career Preparation **Credits:** 1
- ASI 400 - Farm Animal Reproduction **Credits:** 3
- ASI 595 - Current Issues in Animal Science **Credits:** 3

Animal Science Concentration: 25 credit hours

Animal Products Course: 3 credit hours

Choose one course from the list below:

- ASI 350 - Meat Science **Credits:** 3
- ASI 361 - Meat Animal Processing **Credits:** 3
- ASI 405 - Fundamentals of Milk Processing **Credits:** 3
- ASI 601 - Endocrinology and Lactation **Credits:** 3
- ASI 640 - Poultry Products Technology **Credits:** 3
- ASI 695 - Principles of Equine Exercise Physiology **Credits:** 3

Animal Breeding & Genetics Course: 4 credit hours

Select 4 hours: (ASI 500 and ASI 501) OR ASI 511

Select one course:

- ASI 500 - Genetics **Credits:** 3

AND

- ASI 501 - Principles of Animal Breeding **Credits:** 1
- ASI 511 - Applied Animal Breeding and Genetics **Credits:** 4

Animal Management Courses: 6 credit hours

Select two courses from the list below:

- ASI 515 - Beef Science **Credits:** 3
- ASI 520 - Companion Animal Management **Credits:** 3
- ASI 521 - Horse Science **Credits:** 3
- ASI 524 - Sheep and Meat Goat Science **Credits:** 3
- ASI 535 - Swine Science **Credits:** 3
- ASI 621 - Dairy Cattle Management **Credits:** 3
- ASI 645 - Poultry Management **Credits:** 3

Animal Sciences Specialization Courses: 12 credit hours

Specialization courses in ASI (must be at the 300+ level)

Major Support Courses: 30 credit hours

Major Concentration Courses: 15 credit hours

Block A: Ag Course at 300-level and above: 3 credit hours

see departmental list A

https://www.ag.k-state.edu/student-success/academic-services/student-handbook/departcourselists.html

Block B: Business Courses: 6 credit hours

3 credits must be at 300-level or above.
see departmental list B

https://www.ag.k-state.edu/student-success/academic-services/student-handbook/departcourselists.html

Block C: Applied and Foundational Science courses: 6 credit hours

see departmental list C

https://www.ag.k-state.edu/student-success/academic-services/student-handbook/departcourselists.html

Major Specialization Courses: 15 credit hours

Block D: Specialization courses: 15 credit hours

Courses used in this block must not also be used in K-State Core Requirements 1 or 2.

At least 7 credits must be at 300+ level

see departmental list D

https://www.ag.k-state.edu/student-success/academic-services/student-handbook/departcourselists.html

Applied Learning Experience Overlay

Student must take at least one course designated as an applied learning experience. See departmental list.

Unrestricted Electives as needed to meet 120 credit hours.

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Animal Sciences and Industry - Pre-Veterinary/Science (BS)

The Animal Sciences and Industry major prepares students for a variety of careers related to animal care and production. Students may continue their education in veterinary or graduate school or start their careers in areas like animal health, nutrition, breeding and genetics, reproduction, meat science, or milk processing within the industry, education, or government. Coursework focuses on the science and business of raising animals, with an emphasis on domesticated animals of importance to the lives of Kansans. There are two options of study to choose from based on a student's target career: Prevet/Science or Management/Industry, both of which are available on the Manhattan campus or online.

The ASI major is housed in the Northeast corner of the main Manhattan campus, but its reach is far beyond classrooms, offices, and laboratories located in Weber Hall and Call Hall. The Department maintains teaching and research units within two miles of campus, where students take courses and apply concepts with hands-on education. There are separate units and farms for horses, sheep and meat goats, swine, dairy, poultry, purebred beef cattle, cow/calf, stocker cattle, and feedlot cattle. Animal products are further processed on campus through the Department's meats and milk processing facilities. Finally, the ASI Dept. enjoys a collaborative relationship with the College of Veterinary Medicine, other Departments in the College, and its stakeholders so students can gain experience in the veterinary health center, feed mill and pet food processing facilities, and state/federal government facilities all located within a few miles of campus.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Science and Math: 12-14 credit hours

The courses with a KSC designation are required if not met through University Core Requirements.

- BIOL 198 - Principles of Biology **Credits:** 4
  Select 1 course
- CHM 210 - Chemistry I **Credits:** 4
- CHM 220 - Honors Chemistry I **Credits:** 5
  Select 1 course
- CHM 230 - Chemistry II **Credits:** 4
- CHM 250 - Honors Chemistry II **Credits:** 5
  Select 1 course
  KSC-030
- MATH 100 - College Algebra **Credits:** 3
- MATH 205 - General Calculus **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Animal Science Courses: 44-45 credit hours

Animal Science Foundations: 0-1 credit hours

- ASI 101 - Foundations in Animal Sciences & Industry **Credits:** 1
  OR
- ASI 301 - Transfer Foundations in ASI **Credits:** 0

Animal Science Courses: 19 credit hours

- ASI 102 - Principles of Animal Science **Credits:** 3
- ASI 105 - Livestock Lab **Credits:** 1
- ASI 106 - Dairy Lab **Credits:** 0.5
- ASI 107 - Companion Animal Lab **Credits:** 0.5
- ASI 108 - Poultry Lab **Credits:** 0.5
- ASI 109 - Horse Lab **Credits:** 0.5
- ASI 150 - Anatomy and Physiology of Domestic Animals **Credits:** 3
- ASI 202 - Domestic Animal Nutrition **Credits:** 3
- ASI 300 - Animal Sciences and Industry Career Preparation **Credits:** 1
- ASI 400 - Farm Animal Reproduction **Credits:** 3
- ASI 595 - Current Issues in Animal Science **Credits:** 3

Animal Science Concentration: 25 credit hours

Animal Products Course: 3 credit hours

Choose one course from the list below:

- ASI 350 - Meat Science **Credits:** 3
- ASI 361 - Meat Animal Processing **Credits:** 3
- ASI 405 - Fundamentals of Milk Processing **Credits:** 3
- ASI 601 - Endocrinology and Lactation **Credits:** 3
- ASI 640 - Poultry Products Technology **Credits:** 3
- ASI 695 - Principles of Equine Exercise Physiology **Credits:** 3

Animal Breeding & Genetics Course: 4 credit hours

Select 4 hours: (ASI 500 and 501) OR ASI 511

Choose from the list below:

- ASI 500 - Genetics **Credits:** 3

AND

- ASI 501 - Principles of Animal Breeding **Credits:** 1
- ASI 511 - Applied Animal Breeding and Genetics **Credits:** 4

Animal Management Courses: 6 credit hours

Choose two courses from the list below:

- ASI 515 - Beef Science **Credits:** 3
- ASI 520 - Companion Animal Management **Credits:** 3
- ASI 521 - Horse Science **Credits:** 3
- ASI 524 - Sheep and Meat Goat Science **Credits:** 3
- ASI 535 - Swine Science **Credits:** 3
- ASI 621 - Dairy Cattle Management **Credits:** 3
- ASI 645 - Poultry Management **Credits:** 3

Animal Sciences Specialization Courses: 12 credit hours

Specialization courses in ASI (must be at the 300+ level)

Major Support Courses: 26 credit hours

Major Concentration Courses: 14 credit hours

Blocks A and/or B: Agriculture and/or business course(s): 6 credit hours

must be at 300+ level

see departmental list A and B

https://www.ag.k-state.edu/student-success/academic-services/student-handbook/departcourselists.html

Block C: Applied and foundational science courses: 8 credit hours

must be at 300+ level

see departmental list C

https://www.ag.k-state.edu/student-success/academic-services/student-handbook/departcourselists.html

Major Specialization Courses: 12 credit hours

Block D: Specialization courses: 12 credit hours

Courses used in this block must not also be used in K-State Core Requirements 1 or 2.

see departmental list D

https://www.ag.k-state.edu/student-success/academic-services/student-handbook/departcourselists.html

Applied Learning Experience Overlay

Student must take at least one course designated as an applied learning experience. See departmental list.

Unrestricted Electives as needed to meet 120 credit hours.

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Minor

Animal Sciences and Industry Minor

An academic minor in animal sciences and industry can be earned by completing a minimum of 15 hours of credit with the ASI designation. The courses that comprise the minor will be determined by the minor coordinator in the Department of Animal

Sciences and Industry. No more than 6 non-KSU transfer credits can be applied towards the minor. For additional information visit the website.

Requirements

Required Courses	Credits
ASI 102	3 credits
ASI courses 200 level and above	5 credits
ASI courses 400 level and above	5 credits
ASI electives (100-777 level)	0-2 credits

Total credit hours: (15)

Undergraduate Certificate

Animal Health Undergraduate Certificate

The certificate program will require the completion of a minimum of 15 credit hours relevant to the animal health industry. Elective courses in this curriculum may require prerequisites.

Required Courses: 6-7 credit hours

- Animal Anatomy and Physiology **Credits:** 3-4
- ASI 150 - Anatomy and Physiology of Domestic Animals **Credits:** 3
  OR
- ASI 540 - Principles of Animal Disease Control **Credits:** 3
- ASI 533 - Physiology of Domestic Animals **Credits:** 3

Concentration in Animal Health: 8-9 credit hours

In addition to the courses listed below, students may apply up to 3 credits of experiential learning courses (ASI 560, ASI 561 and ASI 599) to the certificate. The courses must be animal health related.

- AAI 797 - U.S. Animal Politics and Policymaking **Credits:** 2
- AP 600 - Introduction to Pharmacology for Health Professionals **Credits:** 3
- AP 711 - Stem Cells and Comparative Biomedicine **Credits:** 2
- ASI 210 - Intro to Animal Biotechnology **Credits:** 3
- ASI 402 - Calving **Credits:** 1
- ASI 444 - Equine Health **Credits:** 3
- ASI 600 - Applied Animal Biotechnology **Credits:** 3
- ASI 655 - Behavior of Domestic Animals **Credits:** 3
- BIOL 513 - Physiological Adaptations of Animals **Credits:** 4

- BIOL 521 - Evolution of Infectious Diseases **Credits:** 3
- BIOL 670 - Immunology **Credits:** 3
- DMP 313 - Introduction To Epidemiology **Credits:** 3
- DMP 611 - Cow-Calf Health Systems **Credits:** 2
- DMP 690 - Essential Practices for BSL-3 Research Settings **Credits:** 1
- DMP 691 - Introduction to High Containment Laboratory Topics and Techniques **Credits:** 3
- DMP 754 - Introduction to Epidemiology **Credits:** 3
- ENTOM 305 - Animal Health Entomology **Credits:** 2
- ENTOM 306 - Animal Health Entomology Laboratory **Credits:** 1
- GRSC 615 - Animal Food Safety **Credits:** 1

Total Hours Required: 15

Animal Nutrition Undergraduate Certificate

The certificate program will require the completion of a minimum of 15 credit hours relevant to the animal nutrition industry. Courses in this certificate may require prerequisites.

Required Courses: 8 credit hours

- ASI 202 - Domestic Animal Nutrition **Credits:** 3
- ASI 302 - Advanced Animal Nutrition **Credits:** 3
- ASI 675 - Monogastric Nutrition **Credits:** 1
- ASI 680 - Ruminant Nutrition **Credits:** 1

Concentration in Animal Nutrition: 7 credit hours

In addition to the courses listed below, students may apply up to 3 credits of experiential learning courses (ASI 560, ASI 561 and ASI 599) to the certificate. The courses must be animal nutrition related.

- ASI 676 - Avian Nutrition **Credits:** 1
- ASI 677 - Companion Animal Nutrition **Credits:** 1
- ASI 678 - Equine Nutrition **Credits:** 1
- ASI 679 - Swine Nutrition **Credits:** 1
- ASI 681 - Dairy Cattle Nutrition **Credits:** 1
- ASI 682 - Formulation of Livestock and Poultry Diets **Credits:** 1
- ASI 683 - Grazing Livestock Nutrition **Credits:** 1
- ASI 684 - Nutrition of Feedlot Cattle **Credits:** 1
- ASI 685 - Stored Forage Systems for Ruminant Animals **Credits:** 1
- AGRON 251 - Range Management **Credits:** 3
- AGRON 260 - Field Identification of Range and Pasture Plants **Credits:** 1
- AGRON 462 - Range Grasses **Credits:** 2
- AGRON 550 - Forage Management and Utilization **Credits:** 3
- GRSC 312 - Introduction to Feed and Pet Food Processing **Credits:** 3
- GRSC 313 - Intro to Feed and Pet Food Processing Lab **Credits:** 1

- GRSC 615 - Animal Food Safety **Credits:** 1
- GRSC 645 - Pet Food Processing **Credits:** 3
- GRSC 650 - Nutritional Impacts of Processing **Credits:** 3
- GRSC 661 - Qualities of Feed Ingredients **Credits:** 3

Total Hours Required: 15

Beef Cattle Feedlot Management Undergraduate Certificate

The certificate program will require the completion of a minimum of 15 credit hours relevant to the beef cattle feeding industry. Courses in this certificate may require prerequisites.

Certificate: 18 credit hours

Required Courses: 12-14 credit hours

In addition to the courses listed below, students may apply up to 3 credits of experiential learning courses (ASI 561, 599, and 660) to the certificate. Additional courses may be approved by the department on case by case bases, i.e. ASI 261 and 661 Animal Sciences and Industry Problems. The courses must be beef cattle feedlot related.

- AGEC 420 - Commodity Futures **Credits:** 3
- ASI 315 - Livestock and Meat Evaluation **Credits:** 3
- ASI 515 - Beef Science **Credits:** 3
- ASI 680 - Ruminant Nutrition **Credits:** 1
- ASI 684 - Nutrition of Feedlot Cattle **Credits:** 1

Elective Courses: 4-6 credit hours

- ASI 650 - Identification and Data Management of Food Animals **Credits:** 2
- ASI 662 - Special Topics in Animal Science **Credits:** 0-6 (must be beef-cattle related)
- ASI 682 - Formulation of Livestock and Poultry Diets **Credits:** 1
- GRSC 312 - Introduction to Feed and Pet Food Processing **Credits:** 3
- GRSC 313 - Intro to Feed and Pet Food Processing Lab **Credits:** 1
- MANGT 220 - Principles of Management **Credits:** 3

Beef Cattle Ranch Management Undergraduate Certificate

The certificate program will require the completion of a minimum of 18 credit hours relevant to the beef cattle ranching industry. Courses in this certificate may require prerequisites.

Certificate: 18 credit hours

Required Courses: 16-17 credit hours

In addition to the courses listed below, students may apply up to 3 credits of experiential learning courses (ASI 561, 599, and 660) to the certificate. The courses must be beef cattle ranch management related.

- AGEC 308 - Farm and Ranch Management **Credits:** 3
  OR
- AGEC 318 - Food and Agribusiness Management **Credits:** 3
  Select one course:
- ASI 500 - Genetics **Credits:** 3
  AND
- ASI 501 - Principles of Animal Breeding **Credits:** 1
  OR
- ASI 511 - Applied Animal Breeding and Genetics **Credits:** 4
- ASI 515 - Beef Science **Credits:** 3
- ASI 680 - Ruminant Nutrition **Credits:** 1
- ASI 683 - Grazing Livestock Nutrition **Credits:** 1
- DMP 611 - Cow-Calf Health Systems **Credits:** 2
  Select one course:
- AGRON 251 - Range Management **Credits:** 3
- AGRON 462 - Range Grasses **Credits:** 2
- AGRON 550 - Forage Management and Utilization **Credits:** 3

Elective Courses: 1-2 credit hours

- ASI 402 - Calving **Credits:** 1
- ASI 512 - Bovine Reproductive Technologies **Credits:** 2
- ASI 620 - Beef Systems Management **Credits:** 2
- ASI 650 - Identification and Data Management of Food Animals **Credits:** 2
- ASI 662 - Special Topics in Animal Science **Credits:** 0-6 (must be beef-cattle related)

Dairy Science Undergraduate Certificate

The certificate program requires the completion of a minimum of 18 credits, focusing primarily on dairy cattle management. Courses in this certificate may have prerequisites.

Certificate: 18 credits hours

Required Courses: 11.5 credit hours

- ASI 106 - Dairy Lab **Credits:** 0.5
- ASI 396 - Dairy Cattle Judging **Credits:** 2
- ASI 400 - Farm Animal Reproduction **Credits:** 3
- ASI 621 - Dairy Cattle Management **Credits:** 3
- ASI 680 - Ruminant Nutrition **Credits:** 1
- ASI 681 - Dairy Cattle Nutrition **Credits:** 1
- ASI 685 - Stored Forage Systems for Ruminant Animals **Credits:** 1

Electives: 6.5 credit hours

In addition to the courses listed below, students may apply up to 3 credits of experiential learning courses (ASI 561, ASI 599, ASI 661, and ASI 662) to the certificate. The courses must be dairy related.

- ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
  OR
- AGEC 308 - Farm and Ranch Management **Credits:** 3
- AGEC 420 - Commodity Futures **Credits:** 3
- AGRON 550 - Forage Management and Utilization **Credits:** 3
- AGRON 551 - Forage Management and Utilization Laboratory **Credits:** 1
- ASI 405 - Fundamentals of Milk Processing **Credits:** 3
- ASI 420 - Advanced Dairy Cattle Judging **Credits:** 1
  Select one course:
- ASI 500 - Genetics **Credits:** 3
  AND
- ASI 501 - Principles of Animal Breeding **Credits:** 1
  OR
- ASI 511 - Applied Animal Breeding and Genetics **Credits:** 4
- ASI 512 - Bovine Reproductive Technologies **Credits:** 2
- ASI 540 - Principles of Animal Disease Control **Credits:** 3
- ASI 601 - Endocrinology and Lactation **Credits:** 3
- ASI 308 - Dairy Foods Processing and Technology **Credits:** 3
- ASI 655 - Behavior of Domestic Animals **Credits:** 3
- ASI 682 - Formulation of Livestock and Poultry Diets **Credits:** 1

Note

To receive the certificate students must have a cumulative GPA of 2.0 in the 18 required credit hours. Course(s) from junior college and/or technical school programs will not be applied toward the certificate unless the course(s) are equivalent to a K-State course(s).

Total Hours Required for Certificate: 18

Equine Science Undergraduate Certificate

The certificate program will require the completion of a minimum of 18 credit hours of relevant to the equine industry. Courses in the certificate may have prerequisites.

Certificate: 18 credit hours

Required Courses: 7.5 credit hours

- ASI 109 - Horse Lab **Credits:** 0.5
- ASI 333 - Equine Enterprise Management **Credits:** 1

- ASI 444 - Equine Health **Credits:** 3
- ASI 521 - Horse Science **Credits:** 3

Concentration: 10.5 credit hours

In addition to the courses listed below, students may apply up to 3 credits of experiential learning courses (ASI 261, 262, 560, 561, 599, 660, 661, 662) to the certificate. The courses must be equine related.

- ASI 325 - Beginning Horse Evaluation **Credits:** 2
- ASI 326 - Advanced Horse Evaluation **Credits:** 2
- ASI 345 - Beginning Horse Training and Management **Credits:** 2
- ASI 395 - Intermediate Horse Training & Management **Credits:** 2
- ASI 403 - Foaling **Credits:** 1
- ASI 445 - Advanced Horse Training and Management **Credits:** 2
- ASI 504 - Equine Reproduction Management **Credits:** 3
- ASI 505 - Equine Reproduction Management Lab **Credits:** 1
- ASI 602 - Equine Breeding and Genetics **Credits:** 2
- ASI 678 - Equine Nutrition **Credits:** 1
- ASI 695 - Principles of Equine Exercise Physiology **Credits:** 3

Total Hours Required: 18

Meat Science Undergraduate Certificate

The second largest industry in Kansas is the Meat Processing Industry, and Kansas ranks second in the nation in meat processing. This certification program will allow the Animal Sciences and Industry department to better identify, advise, and prepare students for the numerous and various kinds of jobs in the Meat Processing Industry.
Courses in this certificate may require prerequisites.

Certificate (15 credits)

Core Courses (6 credits)

- ASI 350 - Meat Science **Credits:** 3
- FDSCI 690 - Principles of HACCP and Preventive Controls for Human Food **Credits:** 3

Concentration (9 credits)

In addition to the courses listed below, students may apply up to 3 credits of experiential learning courses (ASI 560, ASI 561 and ASI 599) to the certificate. The courses must be meats related.

- ASI 315 - Livestock and Meat Evaluation **Credits:** 3
- ASI 361 - Meat Animal Processing **Credits:** 3
- ASI 370 - Principles of Meat Evaluation **Credits:** 2
- ASI 495 - Advanced Meat Evaluation **Credits:** 2
- ASI 610 - Processed Meat Operations **Credits:** 2

- ASI 640 - Poultry Products Technology **Credits:** 3
- ASI 658 - Animal Growth and Development **Credits:** 3
- ASI 777 - Meat Science and Muscle Biology **Credits:** 3

Other Program Choices

Animal Sciences and Industry - Management/Industry (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
English Requirement	3	**KSC 010**
MATH 100 - College Algebra	3	**KSC 030**
Social and Behavioral Sciences Requirement	3	**KSC 050**
ASI 101 - Foundations in Animal Sciences & Industry	1	
ASI 102 - Principles of Animal Science	3	
Block D Specialization Course	1	
Total Credits: 14		
Semester 2		
English Requirement	3	**KSC 010**
Natural & Physical Sciences Requirement (Recommend CHM 110 & CHM 111)	4	**KSC 040**
Arts and Humanities Requirement	3	**KSC 060**
ASI 105 - Livestock Lab	1	
ASI 107 - Companion Animal Lab	0.5	
ASI 109 - Horse Lab	0.5	
Block A Specialization Course	3	
Total Credits: 15		
Second Year		

Semester 1		
Communication Requirement	3	**KSC 020**
BIOL 198 - Principles of Biology	4	
ASI 106 - Dairy Lab	0.5	
ASI 108 - Poultry Lab	0.5	
ASI 150 - Anatomy and Physiology of Domestic Animals	3	
ASI 300 - Animal Sciences and Industry Career Preparation	1	
Animal Science Specialization Course	3	
Total Credits: 15		
Semester 2		
CHM 110 - General Chemistry	3	
CHM 111 - General Chemistry Laboratory	1	
Or Unrestricted elective if CHM 110 and 111 were taken previously		
Social and Behavioral Sciences Requirement	3	**KSC 050**
Arts and Humanities Requirement	3	**KSC 060**
ASI 202 - Domestic Animal Nutrition	3	
Block B Specialization Course	3	
Total Credits: 16		
Third Year		
Semester 1		
Animal Management Course	3	
Block B Specialization Course	3	
Block C Specialization Course	2	

Block D Specialization Course	3		
Block D Specialization Course	2		
Animal Science Specialization	3		
Total Credits: 16			
Semester 2			
ASI 400 - Farm Animal Reproduction	3		
Animal Management Course	3		
Applied Learning Experience/Animal Science Specialization	3		
ASI 511 - Applied Animal Breeding and Genetics	4		
Total Credits: 13			
Fourth Year			
Semester 1			
Animal Products Course	3		
Block C Specialization Course	4		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Block D Specialization Course	3		
Block D Specialization Course	3		
Total Credits: 16			
Semester 2			
ASI 595 - Current Issues in Animal Science	3		
Block D Specialization Course	3		
Animal Science Specialization	3		

Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Unrestricted Elective	3		
Total Credits: 15			
Total Program Hours: 120			

Animal Sciences and Industry - Pre-Veterinary/Science (BS) Academic Degree Map

First Year	**Hours**	**K-State Core**	
Semester 1			
English Requirement	3	**KSC 010**	
ASI 101 - Foundations in Animal Sciences & Industry	1		
ASI 102 - Principles of Animal Science	3		
ASI 105 - Livestock Lab	1		
ASI 107 - Companion Animal Lab	0.5		
ASI 109 - Horse Lab	0.5		
Unrestricted Elective	1		
CHM 210 - Chemistry I	4		
Total Credits: 14			
Semester 2			
English Requirement	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
CHM 230 - Chemistry II	4		
ASI 106 - Dairy Lab	0.5		
ASI 108 - Poultry Lab	0.5		

ASI 150 - Anatomy and Physiology of Domestic Animals	3		
Total Credits: 14			
Second Year			
Semester 1			
Communication Requirement	3	**KSC 020**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Arts & Humanitities Requirement	3	**KSC 060**	
ASI 202 - Domestic Animal Nutrition	3		
ASI 300 - Animal Sciences and Industry Career Preparation	1		
Natural & Physical Sciences Requirement (Recommend Biol 198)	4	**KSC 040**	
Total Credits: 17			
Semester 2			
BIOL 198 - Principles of Biology **OR**	4		
Unrestricted Elective if Biol 198 or CHM 210 selected previously			
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Arts & Humanities Requirement	3	**KSC 060**	
Block C Concentration Course	3		
Total Credits: 13			
Third Year			
Semester 1			
ASI 400 - Farm Animal Reproduction	3		
ASI 500 - Genetics	3		

Block A and B Specialization Course	3		
Block C Concentration Course	2		
Block D Specialization Course	4		
Unrestricted Elective	1		
Total Credits: 16			
Semester 2			
ASI 501 - Principles of Animal Breeding	1		
Block A and B Specialization Course	3		
Block C Concentration Course	3		
Block D Specialization Course	4		
Block D Specialization Course	4		
Total Credits: 15			
Fourth Year			
Semester 1			
Animal Management Course	3		
Animal Products Course	3		
Applied Learning Experience (Animal Science Specialization)	3		
Animal Science Specialization Course	3		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Semester 2			
ASI 595 - Current Issues in Animal Science	3		

Animal Management Course	3		
Animal Science Specialization Course	3		
Animal Science Specialization Course	3		
Unrestricted Elective	1		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits:16			
Total Program Credits: 120			

Communications and Agricultural Education

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The agricultural communications and natural resources communications (ANRC) egree program allows you to combine your passion for agriculture with enhanced communication and journalism skills. The ANRC curriculum includes courses challenging courses that will enhance your communications skills and your knowledge of natural and applied sciences, emphasizing the connection between agriculture and natural resources.

Agricultural education involves the broad study of agriculture including a core of course work in agribusiness; animal science; biotechnology; environmental service; food products and processing; natural resources; plant science; and power, structural and technical systems.

Agricultural education is designed for students who wish to meet requirements to teach agriculture in a public school setting or work in other areas where education and teaching are integral (i.e. extension, agribusiness, etc.). Graduates of this program meet Kansas State Department of Education licensure requirements.

Sixteen weeks during the second semester of the senior year are devoted to full-time student teaching.

Bachelor of Science

Agricultural and Natural Resources Communications (BS)

The agricultural and natural resources communications major prepares students for various communications positions related to agricultural and natural resources areas. Careers can be targeted in public relations, journalism, broadcasting, advertising, marketing, and advocacy. Students in the major experience applied learning through project-based coursework and opportunities to engage with industry professionals and alumni, developing their portfolio and network.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (15-16 credit hours)

Natural and Physical Sciences elective: (3-4 credit hours)

Separate from the GE requirements, we are requiring one course (3-4 credit hours) in natural or physical sciences. Students can choose from a department list.

Analytical Reasoning elective: (3 credit hours)

A math, statistics, or research-focused course from department list

If not met through K-State Core requirements, STAT 225 is required.

KSC-030

- STAT 225 - Introduction to Statistics **Credits:** 3

Business/Econ Requirements: (6 credit hours)

Business/Econ Elective from department list

- MKTG 250 - Introduction to Marketing **Credits:** 3

AG/Natural Resources Science Elective: (3 credit hours)

Students choose a agriculture-related science elective from department list

Agriculture Core: (18-19 credit hours)

Agriculture Foundations: (6-7 credit hours)

Two agricultural introductory courses from two different prefixes, from department list.

Agricultural electives: (12 credit hours)

12 hours of agricultural electives, from department list. 9 of the 12 hours must be at the advanced level (300+)

AGCOM Core Courses: (28 credit hours)

Agricultural communications core courses (28 credit hours)

- AGCOM 100 - Agricultural Communications Orientation **Credits:** 1
- AGCOM 110 - Introduction to Agricultural Communications **Credits:** 2
- AGCOM 210 - Layout and Design Principles **Credits:** 3
- AGCOM 300 - Careers in Agricultural Communications **Credits:** 3
- AGCOM 345 - Application of Layout and Printing Techniques in Agriculture and Natural Resources **Credits:** 3
- AGCOM 410 - Agricultural Student Magazine **Credits:** 1-5
  Must take 3 hours of AGCOM 410
- AGCOM 435 - Video in Agriculture and Food **Credits:** 3
- AGCOM 550 - Internship in Agricultural Communications **Credits:** 1-3
  Must take at least 1 hour of AGCOM 550
- AGCOM 590 - New Media Technology **Credits:** 3
- AGCOM 600 - Capstone Seminar in Agricultural Communications **Credits:** 3
- AGCOM 610 - Crisis Communication **Credits:** 3

Mass Comm Core Courses: (10 credit hours)

- MC 130 - Writing Conventions and Mechanics **Credits:** 1
- MC 340 - Editing for Print and Online Media **Credits:** 3
  Choose 1 of the following principles courses:
- MC 120 - Principles of Advertising **Credits:** 3
- MC 160 - Principles of Journalism **Credits:** 3
- MC 180 - Principles of Public Relations **Credits:** 3
  Choose 1 of the following writing courses:
- MC 200 - News Reporting and Writing Across Platforms **Credits:** 3
- MC 280 - Writing for Advertising & Public Relations **Credits:** 3

Communication and Marketing Electives: (9 credit hours)

Choose advanced (300+) communications and/or marketing electives from a department list.

Free electives: (4-6 credit hours)

Free elective credit hours to meet 120 total hours required for the degree

Total Hours Required for Graduation: 120

Agricultural Education (BS)

Agricultural education involves the broad study of agriculture including a core of course work in agribusiness; animal science; biotechnology; environmental service; food products and processing; natural resources; plant science; and power, structural and technical systems.

Agricultural education is designed for students who wish to meet requirements to teach agriculture in a public school setting or work in other areas where education and teaching are integral (i.e. extension, agribusiness, etc.). Graduates in this option meet Kansas State Board of Education licensure requirements.

Sixteen weeks during the second semester of the senior year are devoted to full-time student teaching.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Chemistry or Additional Science: (4 credit hours)

If Chemistry was taken within the General Education KSC-050 an additional Science must be taken. Biology 198 is recommended.

- CHM 110 - General Chemistry **Credits:** 3
- CHM 111 - General Chemistry Laboratory **Credits:** 1
  KSC-040
- BIOL 198 - Principles of Biology **Credits:** 4

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Agriculture Core: (17 credit hours)

- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
- ASI 102 - Principles of Animal Science **Credits:** 3
- AGRON 205 - Soils **Credits:** 3
- AGRON 206 - Soils Laboratory **Credits:** 1
- ASMS 260 - Agricultural Metal Processes Education **Credits:** 3

Plant Systems Foundations Courses:

- AGRON 120 - Crop Science **Credits:** 3
  AND
- AGRON 121 - Crop Science Laboratory **Credits:** 1
  OR
- HORT 201 - Principles of Horticultural Science **Credits:** 4

Power Structural and Technical Systems: (2 credit hours)

Select 2 Credit Hours

- ASMS 213 - Emerging Technologies in Power, Structural, and Technical Systems **Credits:** 1
- ASMS 214 - Agricultural Engine Systems **Credits:** 1
- ASMS 215 - Agricultural Electrical Systems **Credits:** 1
- ASMS 216 - Agricultural Structures Education **Credits:** 1

Food Products and Processing: (3 credit hours)

Select course from departmental list

https://www.ag.k-state.edu/student-success/academic-services/student-handbook/departcourselists.html

Agricultural Science Electives: (12 credit hours)

Complete 12 credit hours of College of Agriculture (or ATM) courses. Of these, at least 9 credit hours must be at the 200 level or higher. Courses must be selected from at least three College of Agriculture (or ATM) prefixes.

Ag Ed Pre Professional: (7 credit hours)

- AGED 100 - Orientation in Agricultural Education **Credits:** 1
  Transfer students may substitute AGED 300 for AGED 100
- AGED 305 - Field Experience in Agricultural Education **Credits:** 1
- AGED 620 - Principles and Philosophy in Agriculture and Career and Technical Education **Credits:** 2
- EDCI 110 - Foundations of Education **Credits:** 3

Ag Ed Block I: (11 credit hours)

- AGED 400 - Leadership and Professional Development in Agricultural Education **Credits:** 2
- EDCI 315 - Educational Psychology **Credits:** 3
- EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
- EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
- EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Ag Ed Block II: (15 credit hours)

- AGED 500 - Methods of Teaching Agriculture in the Secondary and Middle Schools **Credits:** 3
- AGED 520 - Block II Lab: Content Area Methods and Field Experience **Credits:** 2
- AGED 600 - Senior Seminar in Agricultural Education **Credits:** 1
- AGED 621 - Program Planning in Agricultural Education **Credits:** 3
- AGED 625 - Inquiry-Based Curriculum in Agricultural STEM and Biotechnology Education **Credits:** 2
- EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1

- EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
- EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1

Ag Ed Block III: (12 credit hours)

- EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Free Electives: (3 credit hours)

Total Hours Required for Graduation: 120

Diversified Agriculture (BS)

The Bachelor of Science in Diversified Agriculture is a multidisciplinary program in agriculture. Students in this program will develop their knowledge base and skills in agriculture, communications, and business. Students will have the opportunity to select a concentration within the area of agriculture that best aligns with their career goals. The curriculum blends together both general and specific career education. Upon completion of the program, students should be ready to enter the workforce with a broad and diverse knowledge of agricultural industries, as well as a solid basis in communications and business management skills.

No additional admission criteria for this program.

Effective Spring 2026.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: 45 Credit Hours

Natural and Physical Sciences: (4 credit hours)

An additional 4 hours to what is completed in Requirement #4 of the K-State Core. Course list will include all courses listed in Requirement #4 of the K-State Core.

Agriculture Foundations: (14 credit hours)

Select 14 hours from courses from five of the eight categories:

1) Plant Science

- AGRON 120 - Crop Science **Credits:** 3
  AND
- AGRON 121 - Crop Science Laboratory **Credits:** 1
- HORT 201 - Principles of Horticultural Science **Credits:** 4
  AND
- HORT 202 - Principles of Horticultural Science Lab **Credits:** 1

UFS

2) Natural Resources

- PMC 210 - Intro to Outdoor Recreation **Credits:** 3
- PMC 275 - Introduction to Natural Resource Management **Credits:** 3
- WOEM 350 - Fauna and Flora of the Great Plains **Credits:** 3

3) Communications and Agricultural Education

- AGCOM 110 - Introduction to Agricultural Communications **Credits:** 2
- AGED 533 - Educating the Public about Agriculture **Credits:** 3

4) Agricultural Economics

- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3

5) Animal and Food Science

- ASI 102 - Principles of Animal Science **Credits:** 3
- FDSCI 202 - Introduction to Food Science **Credits:** 3

6) General Agriculture

- GENAG 210 - Human and Cultural Diversity in the Food and Agricultural Sciences **Credits:** 3
- GENAG 225 - Fundamentals of Global Food Systems Leadership **Credits:** 3

7) Grain Science

- GRSC 101 - Fundamentals of Grain Processing **Credits:** 3
- GRSC 150 - Principles of Milling **Credits:** 2
  AND
- GRSC 151 - Principles of Milling Laboratory **Credits:** 1
- GRSC 312 - Introduction to Feed and Pet Food Processing **Credits:** 3

8) Entomology

- ENTOM 101 - Insects and People **Credits:** 3
- ENTOM 125 - Introduction to Entomology **Credits:** 3
- ENTOM 135 - Introduction to Animal Health Entomology **Credits:** 3
- ENTOM 150 - Introduction to Plant Health Entomology **Credits:** 3
- ENTOM 202 - Art and Insects **Credits:** 3
- ENTOM 305 - Animal Health Entomology **Credits:** 2
  AND
- ENTOM 306 - Animal Health Entomology Laboratory **Credits:** 1
- ENTOM 325 - Pollinators **Credits:** 3

Agriculture Electives: (12 credit hours)

Select 12 hours from any College of Agriculture course prefix or ATM, BAE, ENSCI prefix courses.

These courses cannot *also be used to meet the agriculture foundations requirements.*

AGCOM, AGEC, AGED, AGRON, AGTEC, ASI, ASMS, ATM, BAE, ENSCI, ENTOM, FDSCI, FFM, GENAG, GRSC, HNR, HORT, PMC, WOEM

Business, Economics, Management, and Leadership: (15 credit hours)

Select 1 Management Course: See Departmental List

Business, Economics, and Leadership Electives: Select 12 hours, 6 of those hours must be 300 level or above:

ACCTG, AGEC, BUS, ECON, ENTRP, FINAN, MANGT, MKTG, MIS, SALES, PFP, LEAD

Program: 38-40 Credit Hours

Communications and Agricultural Education: (19 credit hours)

- AGED 101 - Foundations of Diversified Agriculture **Credits:** 1
  OR
- AGED 301 - Diversified Agriculture Foundations **Credits:** 1
- AGCOM 222 - Agricultural Business Communications **Credits:** 3
- AGCOM 300 - Careers in Agricultural Communications **Credits:** 3
- AGED 433 - Agricultural Project Management **Credits:** 3
  Non-formal Education:
  Select 1 course:
- AGED 533 - Educating the Public about Agriculture **Credits:** 3
- AGED 537 - Planning Programs in Extension & Non-Formal Education **Credits:** 3
  Communications and Agricultural Education Electives:
  Select 6 Additional Hours:
- AGCOM 310 - Communicating in the Agricultural Industry **Credits:** 3
- AGCOM 345 - Application of Layout and Printing Techniques in Agriculture and Natural Resources **Credits:** 3
- AGED 533 - Educating the Public about Agriculture **Credits:** 3
- AGED 537 - Planning Programs in Extension & Non-Formal Education **Credits:** 3
- AGED 305 - Field Experience in Agricultural Education **Credits:** 1
  AND
- AGED 620 - Principles and Philosophy in Agriculture and Career and Technical Education **Credits:** 2
- AGED 790 - Agricultural Education Methods and Practicum for Teaching and Learning **Credits:** 3

Occupational Health and Safety in Agriculture: (3 credit hours)

Select 3 hours 300-level or above:

ASMS

Agriculture Concentration: (15 credit hours)

Select 300 level or above courses from one prefix:

AGCOM, AGEC, AGED, AGRON, ASI, ASMS, ATM/BAE, ENTOM, FDSCI, GRSC, HORT, PMC, UFS, WOEM, (one PLPTH class may be used in the AGRON, HORT, or ENTOM concentration) or 15 hours in Global Food Systems (must include GENAG 325 and 425). A student wishing to have a customized program with more than one prefix used (with the exception of

Global Food Systems) will need approval from the program director. Concentration must be exclusive to courses in Agriculture (with the exception of BAE, ATM, or ENSCI) unless completing an interdisciplinary certificate and minor which will also need director approval.

Applied Learning Experience Overlay: (1-3 credit hours)

Student must take at least one course designated as an applied learning experience. Course may be used to fulfill other degree requirements. See departmental list.

Unrestricted Electives

Additional hours needed to meet 120 hour requirement.

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Minor

Communications and Education for Agriculture Minor

A minor in Communications and Education for Agriculture is designed to provide base knowledge of theories and techniques of working with the public in the agricultural industry, while giving students a chance to build skills in areas of their choosing. Students pursuing a minor in Communications and Education for Agriculture must complete at least 15 total hours from the electives list; the 15 total hours must include at least two of the three required core courses. This is intended for educating people in non-fomal settings.

Required (15 credit hours):

Six (6) credit hours must be at the 500 course level or above.

Required Core Classes:

Choose two from the following:

- AGCOM 110 - Introduction to Agricultural Communications **Credits:** 2
- AGCOM 222 - Agricultural Business Communications **Credits:** 3
- * AGED 533 - Educating the Public about Agriculture **Credits:** 3

Elective Courses

No course can be used for more than three (3) hours towards the minor.

See minor advisor for list of elective courses.

Total Hours Required: 15

Undergraduate Certificate

Agricultural and Occupational Safety and Health Undergraduate Certificate

This certificate will provide students with knowledge and skills to fulfill the workplace safety and health management duties they will encounter during their careers in agriculture and related industries. Safety and health management is a rapidly growing field. Qualified workers are needed to fill new openings and to replace the aging workforce. Safety and health professionals enter the field from a variety of scientific, manufacturing, health, technical, and social science disciplines. Completion of this certificate will help qualify students for safety-related employment in conjunction with their undergraduate degrees from Kansas State University.

Required Courses: 12 credit hours

- ASMS 423 - Agricultural and Occupational Safety I **Credits:** 3
- ASMS 424 - Agricultural and Occupational Health I **Credits:** 3
- ASMS 453 - Agricultural and Occupational Safety II **Credits:** 3
- ASMS 454 - Agricultural and Occupational Health II **Credits:** 3

Total Hours Required: 12

Other Program Choices

Agricultural and Natural Resources Communications (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
AGCOM 100 - Agricultural Communications Orientation	1	
AGCOM 110 - Introduction to Agricultural Communications	2	
English Requirement	3	**KSC 010**
STAT 225 - Introduction to Statistics	3	**KSC 030**
Arts and Humanities Requirement	3	**KSC 060**
Agricultural Foundations Elective	3	
Total Credits: 15		

Semester 2		
AGCOM 210 - Layout and Design Principles	3	
Communication Requirement	3	**KSC 020**
Natural and Physical Sciences Requirement	4	**KSC 040**
Social and Behavioral Requirement	3	**KSC 050**
Agricultural Foundations Elective	3	
Total Credits: 16		
Second Year		
Semester 1		
MC 130 - Writing Conventions and Mechanics	1	
MC 120 - Principles of Advertising **OR**	3	
MC 160 - Principles of Journalism **OR**	3	
MC 180 - Principles of Public Relations **OR**	3	
English Requirement	3	**KSC 010**
Arts & Humanities Requirement	3	**KSC 060**
Natural or Physical Science Elective	3	
Total Credits: 14		
Semester 2		
AGCOM 435 -Video in Agriculture and Food	3	
MC 200 - News Reporting and Writing Across Platforms **OR**	3	
MC 280 - Writing for Advertising & Public Relations	3	
Analytical Reasoning Elective	3	
Social and Behavioral Requirement	3	**KSC 050**

Free elective - agricultural elective recommended	3	
Total Credits: 15		
Third Year		
Semester 1		
AGCOM 300 - Careers in Agricultural Communications	3	
AGCOM 345 - Application of Layout and Printing Techniques in Agriculture and Natural Resources	3	
MC 340 - Editing for Print and Online Media	3	
MKTG 250 - Introduction to Marketing	3	
Total Credits: 15		
Semester 2		
AGCOM 410 - Agricultural Student Magazine	1-5	
Advanced Ag Elective	3	
Agriculture/Natural Resource Science Elective	3	
Advanced Comm and Marketing Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Fourth Year		
Semester 1		
AGCOM 550 - Internship in Agricultural Communications	1-3	
AGCOM 590 - New Media Technology	3	
Advanced Ag Elective	3	
Business/Econ Elective	3	

Advanced Comm and Marketing Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
AGCOM 600 - Capstone Seminar in Agricultural Communications	3	
AGCOM 610 - Crisis Communication	3	
Advanced Ag Elective	3	
Advanced Comm and Marketing Elective	3	
Free Elective	3	
Total Credits: 14		
Total Program Hours: 120		

Agricultural Education (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
AGED 100 - Orientation in Agricultural Education	1	
ASI 102 - Principles of Animal Science	3	
EDCI 110 - Foundations of Education	3	
English Requirement	3	**KSC 010**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 13		
Semester 2		
English Requirement	3	**KSC 010**

Communication Requirement	3	**KSC 020**
AGRON 120 - Crop Science **AND**	3	
AGRON 121 - Crop Science Laboratory **OR**	1	
HORT 201 - Principles of Horticultural Science	4	
Agricultural Electives	4	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16	3	
Second Year		
Semester 1		
AGEC 120 - Agricultural Economics and Agribusiness	3	**KSC 050**
ASMS 260 - Agricultural Metal Processes Education	3	
AGED 305 - Field Experience in Agricultural Education	1	
Arts & Humanities Requirement	3	**KSC 060**
Food Products and Process Elective	3	
Natural & Physical Sciences Elective	4	**KSC 040**
Total Credits: 17		
Semester 2		
CHM 110 - General Chemistry	3	
CHM 111 - General Chemistry Laboratory	1	
STAT 225 - Introduction to Statistics	3	
Arts & Humanities Requirement	3	**KSC 060**
Agricultural Electives	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**

Total Credits: 16		
Third Year		
Semester 1		
AGED 620 - Principles and Philosophy in Agriculture and Career and Technical Education	2	
AGRON 205 - Soils	3	
AGRON 206 - Soils Laboratory	1	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Agricultural Electives	3	
Power Structural and Technical Systems Elective	1	
Power Structural and Technical Systems Elective	1	
Free Elective		
Total Credits: 17		
Semester 2		
AGED 400 - Leadership and Professional Development in Agricultural Education	2	
EDCI 315 - Educational Psychology	3	
EDCI 318 - Educational Technology for Teaching and Learning	1	
EDCI 320 - Core Teaching Skills and Lab	3	
EDSP 323 - Exceptional Students in the Secondary School	2	
Agricultural Electives	3	
Fourth Year		
Semester 1		
AGED 500 - Methods of Teaching Agriculture in the Secondary and Middle Schools	3	

AGED 520 - Block II Lab: Content Area Methods and Field Experience	2		
AGED 600 - Senior Seminar in Agricultural Education	1		
AGED 621 - Program Planning in Agricultural Education	3		
AGED 625 - Inquiry-Based Curriculum in Agricultural STEM and Biotechnology Education	2		
EDSEC 455 - Teaching in a Multicultural Society	1		
EDSEC 477 - Content Area Literacies and Diverse Learners	2		
EDSEC 525 - Interpersonal Relations in the Schools	1		
Total Credits: 15			
Semester 2			
EDSEC 586 - Teaching Internship in Secondary Schools	1-12		
Total Credits: 12			
Total Credits Hours: 120			

Entomology

Brian McCornack, Head

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Entomology is the study of insects and related arthropods. Applied entomology stresses their relations to plants and animals, including humans. Courses fall into two groups: broad, general courses suitable for any student; and professional courses that provide training for research, teaching, and administration in colleges, experiment stations, health services, government agencies, industry, foundations, and private practice.

Students majoring in other fields may have a special interest in entomology as part of their curriculum. ENTOM courses ENTOM 250, ENTOM 312, and ENTOM 305 are recommended.

Bachelor of Science

Entomology (BS)

Enter Bachelor's Program description here.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program

Entomology Requirements: (30 credit hours)

Entomology Core: (11 credit hours)

- ENTOM 100 - Entomology Foundations **Credits:** 1
- ENTOM 312 - General Entomology **Credits:** 3
  OR
- ENTOM 305 - Animal Health Entomology **Credits:** 2
  AND
- ENTOM 306 - Animal Health Entomology Laboratory **Credits:** 1
- ENTOM 399 - Undergraduate Research Experience **Credits:** 0-3
  Must have at least 1 credit hour of ENTOM 399
- ENTOM 595 - Capstone Experience **Credits:** 3
- ENTOM 695 - Insect Taxonomy **Credits:** 3

Entomology Restricted Electives: (4 credit hours)

Select 4 credit hours from:

- ENTOM 200 - Insect Sampling and Surveillance **Credits:** 2
- ENTOM 205 - Introduction to Insect Data Analysis **Credits:** 1
- ENTOM 210 - Introduction to Insecticides **Credits:** 1
- ENTOM 250 - Economic Entomology **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- ENTOM 399 - Undergraduate Research Experience **Credits:** 0-3 **If ENTOM 399 is selected, must enroll in 1-2 credit hours.**

Entomology Electives: (15 credit hours)

Select an additional 15 credit hours of ENTOM 200 or higher, not used in the Restricted Electives Section

Entomology Professional Specialization: (15 credit hours)

A specialization may be defined in any focus area. All 15 credit hours may come from the same department (including Entomology), or from multiple departments/fields depending on student interests and goals. Students should work with their advisor in defining their specialization and courses.

Agriculture Elective: (6 credit hours)

Any College of Agriculture courses outside of Entomology, or ATM.

Natural and Physical Sciences/Mathematics: (13-16 credit hours)

Science and Math Requirements: (8 credit hours)

MATH 160 is the designated **Math Pathway course** *for this program.* **Any course in KSC-030, including those on the Advanced Math list, may be applied to meet this requirement.**

- BIOL 101 - Concepts of Biology **Credits:** 4
  OR
- BIOL 198 - Principles of Biology **Credits:** 4
- CHM 110 - General Chemistry **Credits:** 3
  And
- CHM 111 - General Chemistry Laboratory **Credits:** 1
  OR
- CHM 210 - Chemistry I **Credits:** 4
  KSC-030
- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Science and Math Electives: (5-8 credit hours)

Select 5-8 credit hours from:

BIOL 200 or above, BIOCH, CHM, GEOL, MATH, STAT, PHYS

Unrestricted Electives as needed to total 120 credit hours

Unrestricted electives as needed to total 120 credit hours

Total Hours Required for Graduation: 120

Minor

Entomology Minor

The Department of Entomology offers an undergraduate minor in entomology. This minor enables students to diversify their educational experiences that complement other academic programs, especially those in disciplines such as animal science, agronomy, horticulture, or biology. To pursue a minor in entomology students must: (1) file a declaration of intent to

pursue the minor and (2) consult an entomology advisor to develop a plan of study. Advisors not only ensure that requirements of the minor are met but will also tailor course work to the interests, educational aims, and employment goals of the individual student.

General requirements (3 Credit Hours)

3 Credit hours from one of the following introductory courses:

- ENTOM 250 - Economic Entomology **Credits:** 3
- ENTOM 101 - Insects and People **Credits:** 3
- ENTOM 305 - Animal Health Entomology **Credits:** 2
  and
- ENTOM 306 - Animal Health Entomology Laboratory **Credits:** 1
- ENTOM 312 - General Entomology **Credits:** 3
  (2) 12 Credit hours from any Entomology course not taken above, including at least 3 Credit hours at or above the 300 level.
  (i) up to 3 Credit hours, at or above 300 level, from any department, in the student's area of entomological interest can be applied to these 12 hours. Approval by Entomology is required.
  (ii) in special circumstances, up to 3 additional Credit hours from a non-Entomology STEM course directly related to Entomology, or covering Entomological topics, can also be applied to these 12 Credit hours. Approval by Entomology is required.

Entomology Elective (12 Credit Hours)

12 Credit hours from any Entomology course not taken above, including at least 3 Credit hours at or above the 300 level.

(i) up to 3 Credit hours, at or above 300 level, from any department, in the student's area of entomological interest can be applied to these 12 hours. Approval by Entomology is required.

(ii) in special circumstances, up to 3 additional Credit hours from a non-Entomology STEM course directly related to Entomology, or covering Entomological topics, can also be applied to these 12 Credit hours. Approval by Entomology is required.

Total Hours Required: 15

Other Program Choices

Entomology (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
English Requirement	3	**KSC 010**
Social and Behavioral Science Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**

ENTOM 100 - Entomology Foundations	1	
ENTOM 312 - General Entomology	3	
ENTOM 399 - Undergraduate Research Experience	0-3	
Total Credits: 14		
Semester 2		
ENTOM 250 - Economic Entomology	3	
English Requirement	3	**KSC 010**
Communication Requirement	3	**KSC 020**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Natural and Physical Sciences Requirement	4	**KSC 040**
Total Credits: 16		
Second Year		
Semester 1		
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Arts and Humanities Requirment	3	**KSC 060**
Free Elective	2	
CHM 110 - General Chemistry	3	
CHM 111 - General Chemistry Laboratory **OR**	1	
CHM 210 - Chemistry I	4	
BIOL 101 - Concepts of Biology **OR**	4	
BIOL 198 - Principles of Biology	4	
Total Credits: 16		
Semester 2		

Social and Behavioral Science Requirement	3	**KSC 050**
Art and Humanities Requirement	3	**KSC 060**
ENTOM 210 - Introduction to Insecticides	1	
Science & Math Elective (Choose any BIOL, CHM, GEOL, MATH, STAT, PHYS)	4	
Free Elective	3	
Total Credits: 14		
Third Year		
Semester 1		
Science & Math Elective (Choose any BIOL, BIOCH, CHM, GEOL, MATH, STAT, PHYS)	4	
Agriculture Elective	3	
Entomology Elective (≥ 200)	3	
Entomology Professional Specialization (Work with advisor to choose)	3	
Free Elective	2	
Total Credits: 15		
Semester 2		
Agriculture Elective	3	
Entomology Elective (≥ 200)	3	
Entomology Elective (≥ 200)	3	
Entomology Professional Specialization (Work with advisor to choose)	3	
Free Elective	3	
Total Credits: 15		
Fourth Year		
Semester 1		
ENTOM 695 - Insect Taxonomy	3	

Entomology Elective (≥ 200)	3		
Entomology Professional Specialization (Work with advisor to choose)	3		
Entomology Professional Specialization (Work with advisor to choose)	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
ENTOM 595 - Capstone Experience	3		
Entomology Elective (≥ 200)	3		
Entomology Professional Specialization (Work with advisor to choose)	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			
Total Program Hours: 120			

General Agriculture

Dan Moser, Associate Dean

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General agriculture is a non-degree exploratory program. Students who are undecided about a major within the College of Agriculture are encouraged to select general agriculture as a major. During the first several semesters, students can investigate their potential interests through course selection and research on career opportunities with the assistance of their academic advisor from the College of Agriculture Academic Programs Office. By the junior year, students should select a specific major because a degree cannot be awarded in general agriculture.

Bachelor of Science

Veterinary Medicine (BS)

The Bachelor of Science in Veterinary Medicine (BVMA): College of Agriculture students admitted into a College or School of Veterinary Medicine accredited by the Council on Education as a member institution of the American Association of Veterinary Medical Colleges and the American Veterinary Medical Association without a Bachelor of Science degree from Kansas State University will be granted a Bachelor of Science in Veterinary Medicine (BVMA) after successfully completing two years (minimum 60 credit hours) of the professional program.

Degree Requirements:

Students enrolled in the Doctor of Veterinary Medicine (DVM) program at Kansas State University or another AVMA accredited institution:

1. Must have been enrolled in the College of Agriculture for a minimum of one semester as an undergraduate student immediately prior to entering the DVM program.
2. Must have completed 12 hours of College of Agriculture courses or transfer courses that are evaluated with a College of Agriculture prefix (students are encouraged to complete a minor in the College of Agriculture).
3. Must have completed a minimum of 30 resident credit hours at Kansas State University.
4. Must have completed a minimum of 60 undergraduate credit hours.
5. Cannot have already received a bachelor's degree.
6. Must have successfully completed (C or better in DVM Core classes) the first 2 years of the DVM program.
7. Must submit official transcripts showing successful completion of the first 2 years of the DVM program to Kansas State University Office of Recruitment and Admissions by the university deadline for transfer work to be received for spring graduates (if attending a veterinary school other than Kansas State University).

Requirements: (64-65 credit hours)

Communications: (9 credit hours)

The courses with a KSC designation are required if not met through University Core Requirements.

- ENGL 100 - Expository Writing I **Credits:** 3
  KSC-010
- ENGL 200 - Expository Writing II **Credits:** 3
  KSC-010
  KSC-020
- COMM 106 - Public Speaking I **Credits:** 3

Social Science/Humanities: (12 credit hours)

Social Sciences and/or Humanities are fulfilled by courses focused on the study of human behavior and interaction in social, cultural, environmental, economic and political contexts. The Humanities and Social Sciences have a historical and contemporary focus, from personal to global contexts and consider challenges for the future. (Areas of study: law, history, ancient languages, modern languages, philosophy, religion, appreciation of visual/performing arts, anthropology, criminology, administration, archaeology, education, economics, psychology, linguistics, political science). See KSU Vet School Admission Requirements.

Science: (35-36 credit hours)

- CHM 210 - Chemistry I **Credits:** 4
- CHM 230 - Chemistry II **Credits:** 4

- CHM 350 - General Organic Chemistry **Credits:** 3
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
- BIOCH 521 - General Biochemistry **Credits:** 3
- PHYS 113 - General Physics I **Credits:** 4
- PHYS 114 - General Physics II **Credits:** 4
- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 255 - General Microbiology **Credits:** 4
- ASI 500 - Genetics **Credits:** 3
  OR
- BIOL 398 - Principles of Genetics **Credits:** 4

Agriculture: (12 credit hours)

College of Ag courses 12 credit hours

- ASI 500 may count here as an overlay.

DVM credits: (minimum 60 hours)

Must have successfully completed the first two years (minimum 60 hours) of an AVMA accredited DVM program and be in good academic standing to progress to third year.

DVM First Year Curriculum

Must have C or better in each required DVM course.

DVM Second Year Curriculum

Must have C or better in each required DVM course.

Total Hours Required for Graduation: 120

Minor

International Agriculture Minor

Experiential learning through international study and travel broadens horizons and increases understanding of global issues by allowing students to examine different agricultural systems, the global marketplace, and the role of social values in food consumption patterns. This minor will add value to undergraduate degree programs, enhance employment opportunities with multinational corporations, and prepare students to function in diverse communities.

Program requirements

The program is open only to majors in the College of Agriculture.

The program consists of:

- One foundation course.
- A modern language.
- An international experience.
- A capstone seminar.
- Students are required to complete at least two semesters of university-level modern language courses.
- The international experience may consist of a travel study course, study abroad, community service, or internship. Academic credit can be granted for international experiences.

Foundation course (3 credit hours)

- AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems **Credits:** 3
  or
- AGEC 710 - Comparative Food and Agriculture Systems **Credits:** 3

Modern language courses (8-10 credit hours)

Students must complete or quiz out of two semesters of one modern language.

International experience (1-3 credit hours)

- GENAG 505 - Comparative Agriculture **Credits:** 1-4
  or
- departmental internship, problems, or topic course or departmental travel course

Capstone seminar (1 credit hour)

- GENAG 690 - Seminar in International Agriculture **Credits:** 1

Elective courses

Students are encouraged to select elective courses in agriculture, social science, and humanities areas and/or free electives that complement their study of the region or country selected as the focus of their program.

Note

Students must complete a "declaration of intent" form describing their plan to fulfill the course work, language, and international experience requirements for the minor. The form will be submitted to and approved by the Office of Agriculture Academic Programs.

Total credit hours: (15)

Non-Degree Seeking

Agriculture: Pre-Veterinary Medicine

The pre-veterinary medicine program in the College of Agriculture benefits students working toward admission to veterinary school. Students work with a faculty advisor to find the best classes for their individual needs. While fulfilling the pre-vet curriculum, students can take additional courses to apply their skills.

The College of Veterinary Medicine does not offer a Bachelor of Science degree. The Doctor of Veterinary Medicine (DVM) is awarded following the successful completion of a minimum of 64 hours in pre-professional requirements and four years in the professional curriculum.

The Bachelor of Science in Agriculture-Veterinary Medicine (BVMA): College of Agriculture students admitted into a College of Veterinary Medicine without a Bachelor of Science degree from Kansas State University will be granted a Bachelor of Science in Agriculture-Veterinary Medicine (BVMA) after successfully completing two years of the professional program.

Degree Requirements for Bachelor of Science - Veterinary Medicine in Agriculture (BVMA)

Students enrolled in the Doctor of Veterinary Medicine (DVM) program at Kansas State University:

1. Must have been enrolled in the College of Agriculture for a minimum of one semester as an undergraduate student prior to entering the DVM program
2. Cannot have already received a bachelor's degree at Kansas State University
3. Successfully completed the first 2 years of the DVM program

Students enrolled in a Doctor of Veterinary Medicine (DVM) program at an accredited institution other than Kansas State University:

1. Must have been enrolled in the College of Agriculture for a minimum of one semester as an undergraduate student prior to entering the DVM program
2. Must have completed 30 undergraduate credit hours at Kansas State University
3. Must have completed a total of 3 years (90 credit hours) of undergraduate coursework acceptable to Kansas State University
4. Cannot have already received a bachelor's degree from Kansas State University
5. Successfully completed the first 2 years of a DVM program
6. Must have submitted transcripts showing successful completion of the first 2 years of the DVM program to the Kansas State University Admissions Office, 119 Anderson Hall, by the university deadline for transfer work to be received for Spring graduates (typically the first Friday in June)

Students that intend to meet the above requirements should apply for graduation for the BVMA degree during the first 4 weeks of Kansas State University's Spring semester of their second year of their DVM program.

Current College of Agriculture students who have been admitted to the DVM program, but who have not completed their bachelor degree at Kansas State University, will be moved into the BVMA degree plan the Fall semester of their first year in the DVM program at Kansas State University. Students attending a DVM program at an institution other than Kansas State University, should go to the Ag Student Records Office in 135 Waters, prior to leaving Kansas State University, to have their major changed to BVMA as well as notify the student records office of their new email address.

*Please note the BVMA will present on the student's transcript as listed below:

DEGREE BACHELOR OF SCIENCE IN AGRICULTURE

CONFER DATE XX/XX/XXXX

PLAN BACHELOR – VETERINARY MEDICINE (B.S.)

The student's transcript will not show the degree plan the student was majoring in prior to entering the DVM program (i.e. Animal Sciences and Industry). Students should understand this is not a degree in their previous undergraduate major and that completion of this degree has a separate set of requirements than does their previous major prior to entering the DVM program.

Other Program Choices

Veterinary Medicine (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
CHM 210 - Chemistry I	4	**KSC 040**
Arts & Humanities or Social Sciences Requirements	6	**KSC 050/KSC 060**
Ag Course	3	
Credit Hours: 16		
Semester 2		
ENGL 200 - Expository Writing II	3	**KSC 010**
CHM 230 - Chemistry II	4	
BIOL 198 - Principles of Biology	4	
Ag Course	3	
COMM 106 - Public Speaking I	3	**KSC 020**
Credit Hours: 17		

Second Year		
Semester 1		
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
ASI 500 - Genetics	3	
PHYS 113 - General Physics I	4	
Arts & Humanities or Social Sciences Requirements	3	**KSC 050/KSC 060**
Credit Hours: 15		
Semester 2		
PHYS 114 - General Physics II	4	
BIOCH 521 - General Biochemistry	3	
BIOL 255 - General Microbiology	4	
Arts & Humanities or Social Sciences Requirements	3	**KSC 050/KSC 060**
Ag Course	3	
Credit Hours: 17		
Third Year (Year 1 DVM Courses)		
Semester 1		
(Must have a C or Better)		
Course requirements are determined by the College of Veterinary Medicine		
Semester 2		
(Must have C or Better)		

Course requirements are determined by the College of Veterinary Medicine		
Fourth Year (Year 2 DVM Courses)		
Semester 1		
(Must have a C or Better)		
Course requirements are determined by the College of Veterinary Medicine		
Must successfully complete the first two years and be in good academic standing to progress to the third year.		
Total Program Hours: 148		
Undergraduate Program Total Hours: 65 credit hours		
Veterinary Medicine Minimum Total Credits: 83 credit hours		
Total Program Hours: 148		

Grain Science and Industry

Joseph Awika, Department Head

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The Department of Grain Science and Industry offers three curricula: a bachelor of science in bakery science and management; a bachelor of science in feed science and management; and a bachelor of science in milling science and management. In the baking science curriculum, options are available in cereal chemistry or production management. In the feed science curriculum, options are available in biofuels production or feed production. In the milling science curriculum, options are available in chemistry or operations.

Associate of Applied Science

Food and Feed Manufacturing (AAS)

The AAS in Food and Feed Manufacturing degree program is designed to prepare students with the knowledge and skills for a successful career in the grain, food, and feed industries. The curriculum is designed to prepare learners for entry or supervisory positions in the rapidly advancing, diverse grain, food, and feed industries. The coursework, in addition to providing a solid technical and applied science foundation for ingredient purchasing, equipment maintenance and operation, and facility management, also provides students with invaluable hands-on learning experiences. This curriculum is designed to accommodate two different types of learners: 1) Current learners working in the industry who would like to obtain their degree online while maintaining their job; 2) traditional students who would like to complete a two-year degree in technical education to join the food and feed manufacturing and/or grain processing workforce as soon as possible.

The objective of the Associates of Applied Science in Food and Feed Technology is to train students in grain processing, flour milling, commercial baking, feed manufacturing, and pet food processing.

Kansas Board of Regents (KBOR) General Education Requirements: 16 credit hours

English (Written Communication Outcomes): 3 credit hours

- ENGL 100 - Expository Writing I **Credits:** 3

Communication (Oral Communication Outcomes): 3 credit hours

Select 1 course:

- COMM 106 - Public Speaking I **Credits:** 3
- COMM 109 - Public Speaking 1A, Honors **Credits:** 3
- COMM 130 - Interpersonal Communication **Credits:** 3

Math and Statistics (Quantitative Literacy Outcomes): 3 credit hours

Select 1 course:

- MATH 100 - College Algebra **Credits:** 3
- MATH 150 - Plane Trigonometry **Credits:** 3
- MATH 151 - Applied Plane Trigonometry **Credits:** 2-3
- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3
- MATH 205 - General Calculus **Credits:** 3
- MATH 210 - Technical Calculus I **Credits:** 3
- MATH 211 - Technical Calculus II **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- MATH 250 - Mathematical Scholars Calculus 1 **Credits:** 4
- STAT 100 - Statistical Literacy in the Age of Information **Credits:** 3
- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 250 - Business and Economic Statistics I **Credits:** 3

Natural and Physical Sciences (Natural and Physical Science Outcomes): 4-5 credit hours

Select 4 hours (must include a lecture and lab from the same course sequence):

- AGRON 120 - Crop Science **Credits:** 3
- AGRON 121 - Crop Science Laboratory **Credits:** 1
- BIOCH 110 - Biochemistry and Society **Credits:** 3
- BIOCH 111 - Biochemistry and Society Laboratory **Credits:** 1
- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
- BIOL 101 - Concepts of Biology **Credits:** 4
- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 221 - Organismic Biology **Credits:** 5
- BIOL 255 - General Microbiology **Credits:** 4
- BIOL 263 - Ecology of Environmental Problems **Credits:** 3
- BIOL 441 - Human Body I **Credits:** 4
- BIOL 442 - Human Body II **Credits:** 4
- CHM 110 - General Chemistry **Credits:** 3
- CHM 111 - General Chemistry Laboratory **Credits:** 1
- CHM 210 - Chemistry I **Credits:** 4
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
- GEOG 121 - Introductory Physical Geography: Earth Systems Science **Credits:** 3
- GEOG 122 - Introduction to Physical Geography: Earth Systems Science Laboratory **Credits:** 1
- GEOG 235 - Atmospheric Science **Credits:** 4
- GEOL 100 - Earth in Action **Credits:** 3
- GEOL 103 - Geology Laboratory **Credits:** 1
- HORT 201 - Principles of Horticultural Science **Credits:** 4
- KIN 220 - Biobehavioral Bases of Physical Activity **Credits:** 4
- PHYS 101 - The Physical World **Credits:** 3
- PHYS 103 - The Physical World Laboratory **Credits:** 1
- PHYS 106 - Concepts of Physics **Credits:** 4
- PHYS 113 - General Physics I **Credits:** 4
- PHYS 114 - General Physics II **Credits:** 4
- PHYS 115 - Descriptive Physics **Credits:** 5
- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 214 - Engineering Physics II **Credits:** 5
- PHYS 223 - Physics I, Mechanics, and Thermodynamics **Credits:** 5
- PHYS 224 - Physics II, Electromagnetism, and Sound **Credits:** 5

Social and Behavioral Science (Social and Behavioral Science Outcomes) OR Arts and Humanities (Arts and Humanities Outcomes): 3 credit hours

Select 3 hours:

- AGCOM 222 - Agricultural Business Communications **Credits:** 3
- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
- AMETH 160 - Introduction to American Ethnic Studies **Credits:** 3
- AMETH 185 - Race, Film, and American Stories **Credits:** 3
- ANTH 200 - Introduction to Cultural Anthropology **Credits:** 3

- ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3
- ANTH 210 - Introduction to Cultural Anthropology, Honors **Credits:** 3
- ANTH 220 - Introduction to Linguistic Anthropology **Credits:** 3
- ANTH 260 - Introduction to Archeology **Credits:** 3
- ANTH 280 - Introduction to Biological Anthropology **Credits:** 4
- ARAB 101 - Arabic I **Credits:** 4
- ARAB 102 - Arabic II **Credits:** 4
- ARAB 201 - Arabic III **Credits:** 5
- ARCH 299 - Appreciation of Architecture **Credits:** 3
- ART 102 - Ceramics for Non-majors **Credits:** 3
- ART 103 - Jewelry Design and Processes for Non-majors **Credits:** 3
- ART 104 - Digital Photography for Non-majors **Credits:** 3
- ART 106 - Art Appreciation **Credits:** 3
- ART 108 - Introduction to Modern and Contemporary Art for Non-Majors **Credits:** 3
- ART 111 - Photography, Civil Rights, Art and the Environment **Credits:** 3
- ART 174 - A and D: Mixed Media Process and Exploration Lab **Credits:** 3
- ART 180 - AandD: Color, Light, and Perception Lab **Credits:** 3
- ART 190 - Drawing I **Credits:** 3
- ART 194 - A and D: Community and the Environment Experience **Credits:** 3
- ART 195 - Survey of Western Art History I **Credits:** 3
- ART 196 - Survey of Western Art History II **Credits:** 3
- ART 197 - Survey of Non-Western Art History **Credits:** 3
- ART 200 - AandD: Visual Representation and Fabrication **Credits:** 3
- ART 202 - Art and Insects **Credits:** 3
- ART 290 - Visual Communication Design I: Typography and Design Principles **Credits:** 3
- ART 291 - Introduction to Drawing **Credits:** 3
- CHINE 101 - Chinese I **Credits:** 4
- CHINE 200 - Chinese II **Credits:** 4
- CHINE 201 - Chinese III **Credits:** 4
- CLSCS 105 - Medical Terminology: Latin and Greek for Scientists **Credits:** 2
- CNS 110 - History of Building and Construction **Credits:** 3
- COMM 120 - Introduction to Human Communication **Credits:** 3
- COMM 130 - Interpersonal Communication **Credits:** 3
- COMM 210 - Forensics, Debate, or Mock Trial Participation **Credits:** 0-1
- COMM 260 - Introduction to Trial Advocacy **Credits:** 3
- COT 150 - The Humanities Through the Arts **Credits:** 3
- CRIM 261 - Introduction to Criminology and Criminal Justice **Credits:** 3
- CZECH 101 - Czech for Travelers **Credits:** 2
- DANCE 110 - Breathe, Move, Be **Credits:** 3
- DANCE 115 - Yoga for Restoration **Credits:** 3
- DANCE 120 - Contemporary Dance I **Credits:** 2-3
- DANCE 165 - Ballet I **Credits:** 2-3
- DANCE 171 - Jazz Dance I **Credits:** 2-3
- DANCE 181 - Tap I **Credits:** 2-3
- DANCE 205 - Dance as an Art Form **Credits:** 3
- DANCE 215 - Improvisational Structures **Credits:** 2-3

- DANCE 220 - Principles of Dance Technology **Credits:** 1-3
- DANCE 225 - Rhythmic Notation for Dance **Credits:** 1
- DANCE 240 - West African Styles of Social Dance and Music **Credits:** 2
- DANCE 250 - Performance Styles **Credits:** 1
- DANCE 265 - Pointe Techniques **Credits:** 1
- DANCE 280 - Musical Theatre Dance **Credits:** 2-3
- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 111 - Principles of Macroeconomics - Honors **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3
- EDEL 270 - Arts for Elementary Schools **Credits:** 3
- ENGL 170 - Writing Studio **Credits:** 0-3
- ENGL 185 - Race, Film, and American Stories **Credits:** 3
- ENGL 187 - Book Club **Credits:** 3
- ENGL 220 - Fiction into Film **Credits:** 3
- ENGL 224 - Television as Literature **Credits:** 3
- ENGL 227 - Video Games as Literature **Credits:** 3
- ENGL 230 - Classical Cultures **Credits:** 3
- ENGL 231 - Medieval and Renaissance **Credits:** 3
- ENGL 233 - Reformation to Enlightenment **Credits:** 3
- ENGL 234 - Modern **Credits:** 3
- ENGL 251 - Introduction to Literature **Credits:** 3
- ENGL 253 - Short Story **Credits:** 3
- ENGL 260 - British Literature **Credits:** 3
- ENGL 270 - American Literature **Credits:** 3
- ENGL 280 - Studies in World Literature and Culture **Credits:** 3
- ENGL 285 - Introduction to American Ethnic Literatures **Credits:** 3
- ENGL 287 - Great Books **Credits:** 3
- ENGL 295 - Selected Studies in English **Credits:** 1-3
- ENGL 297 - Honors Introduction to the Humanities I **Credits:** 3
- ENGL 298 - Honors Introduction to the Humanities II **Credits:** 3
- ENGL 299 - Honors Topics in English **Credits:** 3
- ENGL 355 - Literature for Children **Credits:** 3
- ENGL 381 - American Survey I **Credits:** 3
- ENGL 382 - American Survey II **Credits:** 3
- ENGL 461 - Introduction to Fiction Writing **Credits:** 3
- ENTOM 202 - Art and Insects **Credits:** 3
- ENVD 203 - Survey of the Design, Planning and Community Development Professions **Credits:** 1
- ENVD 251 - History of the Designed Environment II **Credits:** 3
- FREN 101 - French I (Elementary French I) **Credits:** 4
- FREN 102 - French II **Credits:** 4
- FREN 103 - Accelerated Beginning French **Credits:** 5
- FREN 201 - French III **Credits:** 3
- GEOG 100 - World Geography & Globalization **Credits:** 3
- GEOG 200 - Human Geography **Credits:** 3
- GEOG 201 - Human Geography (Honors) **Credits:** 3
- GREEK 101 - Classical Greek I **Credits:** 5

- GREEK 102 - Classical Greek II **Credits:** 5
- GRMN 101 - German I **Credits:** 4
- GRMN 102 - German II **Credits:** 4
- GRMN 201 - German III **Credits:** 3
- GRMN 222 - Elementary German Conversation IIIA **Credits:** 2
- GWSS 105 - Introduction to Gender, Women, and Sexuality Studies **Credits:** 3
- GWSS 275 - Gender, Race, and Sex in Science Fiction **Credits:** 3
- HDFS 110 - Introduction to Human Development **Credits:** 3
- HDFS 250 - Interpersonal and Family Relationships **Credits:** 3
- HINDI 101 - Hindi I **Credits:** 4
- HINDI 102 - Hindi II **Credits:** 4
- HINDI 201 - Hindi III **Credits:** 4
- HIST 100 - Introduction to History **Credits:** 3
- HIST 101 - Western Civilization I: Ancient Greece to Early Modern Europe **Credits:** 3
- HIST 102 - Western Civilization II: Europe in the Modern World **Credits:** 3
- HIST 105 - Western Civilization: The Rise of Europe (Honors) **Credits:** 3
- HIST 106 - Western Civilization: The Modern Era (Honors) **Credits:** 3
- HIST 111 - World History to 1450 **Credits:** 3
- HIST 112 - World History From 1450 **Credits:** 3
- HIST 151 - History of the United States to 1877 **Credits:** 3
- HIST 152 - History of the United States Since 1877 **Credits:** 3
- HIST 155 - Introduction to US Military History **Credits:** 3
- HIST 200 - Topics in History for Freshmen and Sophomores **Credits:** 1-3
- HIST 250 - Russian Culture and Civilization **Credits:** 3
- HORT 201 - Principles of Horticultural Science **Credits:** 4
- IAID 290 - Design and Material Culture **Credits:** 3
- IAID 299 - History of Furniture **Credits:** 3
- INDD 292 - Design Thinking **Credits:** 3
- ITAL 101 - Italian I **Credits:** 4
- ITAL 102 - Italian II **Credits:** 4
- ITAL 105 - Italian for Travelers **Credits:** 1-8
- JAPAN 101 - Japanese I **Credits:** 4
- JAPAN 200 - Japanese II **Credits:** 4
- JAPAN 201 - Japanese III **Credits:** 4
- JAPAN 299 - Special Studies in Japanese **Credits:** 1-8
- LAR 101 - Introduction to Landscape Architecture **Credits:** 3
- LAR 211 - Unlocking Creativity **Credits:** 3
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- LATIN 101 - Latin I **Credits:** 4
- LATIN 102 - Latin II **Credits:** 4
- MC 110 - Mass Communication in Society **Credits:** 3
- MLANG 100 - Beginner Studies in Foreign Language **Credits:** 1-5
- MLANG 106 - Legal Terminology: Latin and French for Law Professions **Credits:** 2
- MLANG 110 - Hebrew for Beginners **Credits:** 2
- MLANG 120 - Multilingualism in the U.S. **Credits:** 3
- MLANG 200 - Intermediate Studies in Foreign Language I **Credits:** 1-5

- MLANG 280 - Studies in World Literature and Culture **Credits:** 1-5
- MLANG 297 - Honors Introduction to the Humanities I **Credits:** 3
- MLANG 298 - Honors Introduction to the Humanities II **Credits:** 3
- MUSIC 100 - Introduction to Music Theory **Credits:** 3
- MUSIC 103 - Voice Class I **Credits:** 1
- MUSIC 104 - Voice Class II **Credits:** 1
- MUSIC 111 - Concert Choir **Credits:** 0-1
- MUSIC 112 - University Choir **Credits:** 0-1
- MUSIC 113 - University Band **Credits:** 0-1
- MUSIC 114 - Cat Band **Credits:** 0-1
- MUSIC 115 - Marching Band **Credits:** 0-1
- MUSIC 116 - Concert Band **Credits:** 0-1
- MUSIC 117 - Wind Symphony **Credits:** 0-1
- MUSIC 118 - Jazz Ensemble Lab A **Credits:** 0-1
- MUSIC 121 - Collegiate Chorale **Credits:** 0-1
- MUSIC 129 - University Orchestra **Credits:** 0-1
- MUSIC 130 - Symphony Orchestra **Credits:** 0-1
- MUSIC 131 - Theatre Orchestra **Credits:** 0-1
- MUSIC 135 - University Tenor/Bass Choir **Credits:** 0-1
- MUSIC 140 - University Treble Chorus **Credits:** 0-1
- MUSIC 150 - History of Musical Instruments **Credits:** 2-3
- MUSIC 151 - Women in Music **Credits:** 3
- MUSIC 152 - Introduction to Film Music **Credits:** 3
- MUSIC 153 - History of Jazz **Credits:** 3
- MUSIC 154 - Salsa: Afro-Cuban Music of the Past and Present **Credits:** 3
- MUSIC 155 - Jazz in Kansas City and the Southwest **Credits:** 2-3
- MUSIC 156 - Introduction to the Broadway Musical **Credits:** 3
- MUSIC 157 - Introduction to American Music **Credits:** 3
- MUSIC 160 - Experiencing Live Music **Credits:** 2-3
- MUSIC 170 - History of Rock and Roll **Credits:** 3
- MUSIC 171 - Inventing the Future: Underground Rock: 1968-1993 **Credits:** 3
- MUSIC 172 - History of Country Music **Credits:** 3
- MUSIC 173 - Music as Protest and Propaganda in the United States **Credits:** 3
- MUSIC 203 - Vocal Techniques I **Credits:** 1
- MUSIC 204 - Vocal Techniques II **Credits:** 1
- MUSIC 205 - Music for Elementary Teachers **Credits:** 3
- MUSIC 208 - Guitar Class I **Credits:** 1
- MUSIC 210 - Music Theory I **Credits:** 3
- MUSIC 211 - Piano Class I **Credits:** 1
- MUSIC 212 - Piano Class II **Credits:** 1
- MUSIC 213 - Piano Class III **Credits:** 1
- MUSIC 214 - Piano Class IV **Credits:** 1
- MUSIC 220 - Topics in Music **Credits:** 1-3
- MUSIC 230 - Music Theory II **Credits:** 3
- MUSIC 231 - Aural Skills I **Credits:** 1
- MUSIC 240 - Advanced String Techniques and Materials **Credits:** 1

- MUSIC 241 - Italian Diction **Credits:** 1
- MUSIC 242 - French Diction **Credits:** 1
- MUSIC 243 - German Diction **Credits:** 1
- MUSIC 244 - West African Drumming and Percussion **Credits:** 2
- MUSIC 246 - Drumset Techniques **Credits:** 1
- MUSIC 248 - Songwriting **Credits:** 3
- MUSIC 249 - Introduction to Music of the World **Credits:** 3
- MUSIC 250 - Introduction to Music **Credits:** 3
- MUSIC 251 - Applied Study for Non-Music Majors **Credits:** 1-2
- MUSIC 254 - Secondary Performance **Credits:** 1-2
- MUSIC 255 - Lower-Division Performance **Credits:** 1-4
- MUSIC 268 - Vocal Pedagogy **Credits:** 2
- MUSIC 280 - Lower-Division Ensemble Performance **Credits:** 1
- PHILO 100 - Introduction to Philosophical Problems **Credits:** 3
- PHILO 105 - Introduction to Critical Thinking **Credits:** 3
- PHILO 112 - Causal and Statistical Reasoning **Credits:** 3
- PHILO 115 - Introduction to Philosophy of Religion **Credits:** 3
- PHILO 120 - Introduction to Philosophy of Art **Credits:** 3
- PHILO 125 - Introduction to Philosophy of Science **Credits:** 3
- PHILO 130 - Introduction to Moral Philosophy **Credits:** 3
- PHILO 135 - Introduction to Social and Political Philosophy **Credits:** 3
- PHILO 140 - Introduction to Philosophy of Mind **Credits:** 3
- PHILO 145 - Historical Introduction to Philosophy **Credits:** 3
- PHILO 150 - Introduction to Philosophy of Feminism **Credits:** 3
- PHILO 160 - Introduction to Philosophy of Law **Credits:** 3
- PHILO 185 - Engineering Ethics **Credits:** 3
- PHILO 215 - Honors Introduction to Philosophy **Credits:** 3
- PHILO 230 - Honors Introduction to Moral Philosophy **Credits:** 3
- PHILO 297 - Honors Introduction to the Humanities I **Credits:** 3
- PHILO 298 - Honors Introduction to the Humanities II **Credits:** 3
- PLAN 115 - Introduction to Regional and Community Planning **Credits:** 3
- PLAN 215 - World Cities **Credits:** 3
- POLSC 110 - Introduction to Political Science **Credits:** 3
- POLSC 111 - Introduction to Political Science, Honors **Credits:** 4
- POLSC 115 - U.S. Politics **Credits:** 3
- POLSC 135 - Introduction to Comparative Politics **Credits:** 3
- POLSC 145 - World Politics **Credits:** 3
- POLSC 155 - Introduction to Political Thought **Credits:** 3
- POLSC 250 - Environmental Political Thought: The Future of Food, Air, Water, and Soil **Credits:** 3
- PSYCH 110 - General Psychology **Credits:** 3
- PSYCH 115 - General Psychology (Honors) **Credits:** 4
- PSYCH 202 - Drugs and Behavior **Credits:** 3
- PSYCH 280 - Psychology of Childhood and Adolescence **Credits:** 3
- PSYCH 290 - Innovative Studies in Psychology **Credits:** 1-6
- RUSSN 101 - Russian I **Credits:** 5
- RUSSN 102 - Russian II **Credits:** 5

- RUSSN 250 - Russian Culture and Civilization **Credits:** 3
- SOCIO 211 - Introduction to Sociology **Credits:** 3
- SOCIO 214 - Introduction to Sociology, Honors **Credits:** 4
- SOCIO 260 - Social Problems **Credits:** 3
- SOCWK 100 - Social Work: The Helping Profession **Credits:** 3
- SOCWK 200 - Basic Skills for Working with People **Credits:** 3
- SPAN 101 - Spanish I **Credits:** 4
- SPAN 102 - Spanish II **Credits:** 4
- SPAN 110 - Conversational Spanish for the Workplace **Credits:** 3
- SPAN 201 - Spanish III **Credits:** 3
- SWAH 101 - Swahili I **Credits:** 4
- SWAH 102 - Swahili II **Credits:** 4
- SWAH 201 - Swahili III **Credits:** 4
- SWAH 202 - Swahili IV **Credits:** 4
- THTRE 111 - Production Participation **Credits:** 1
- THTRE 171 - Fundamentals of Acting **Credits:** 3
- THTRE 201 - Drugs and Alcohol in Theatre and Film **Credits:** 3
- THTRE 202 - Taboo! Transgression and Censorship in Theatre and Film **Credits:** 3
- THTRE 203 - Stage to Screen: Theatre into Film **Credits:** 3
- THTRE 205 - Contemporary American Theatre **Credits:** 3
- THTRE 211 - Run Crew **Credits:** 0-2
- THTRE 212 - Wardrobe Crew **Credits:** 1
- THTRE 220 - Musical Theatre History **Credits:** 3
- THTRE 235 - Introduction to the Art of Film **Credits:** 3
- THTRE 260 - Stage Movement **Credits:** 3
- THTRE 263 - Oral Interpretation of Literature **Credits:** 3
- THTRE 265 - Fundamentals of Improvisation I, II **Credits:** 3
- THTRE 268 - Techniques of Makeup **Credits:** 1
- THTRE 269 - Fundamentals of Technical Production **Credits:** 3
- THTRE 270 - Introduction to Theatre **Credits:** 3
- THTRE 271 - Intermediate Acting **Credits:** 3
- THTRE 280 - Script Analysis **Credits:** 3
- THTRE 299 - Vocal Expression for Actors **Credits:** 3

Food and Feed Manufacturing Major Requirements: 18 credit hours

Food and Feed Manufacturing Requirements: 6 credit hours

- FFM 100 - Foundations in Food and Feed Manufacturing **Credits:** 1
- FFM 110 - Introduction to Grain and Food Manufacturing Industries **Credits:** 1
- FFM 111 - Introduction to Feed and Pet Food Manufacturing Industries **Credits:** 1
- FFM 120 - Ingredient Identification and Quality: Cereal Grains **Credits:** 1
- FFM 121 - Ingredient Identification and Quality: Oil Seeds and Legumes **Credits:** 1
- FFM 122 - Ingredient Identification and Quality: Co-products and Additives **Credits:** 1

Manufacturing Basics: 4 credit hours

Select 1 Group:

1) Milling Basics

- FFM 150 - Preparing Grains **Credits:** 1
- FFM 151 - Milling Process **Credits:** 1
- FFM 152 - Milling Specialty Grains **Credits:** 1
- FFM 159 - Intro to Milling Practicum **Credits:** 1

2) Baking Basics

- FFM 160 - Bakery Ingredients **Credits:** 1
- FFM 161 - Bakery Processes **Credits:** 1
- FFM 162 - Bakery Products **Credits:** 1
- FFM 169 - Intro to Baking Practicum **Credits:** 1

3) Feed and Pet Food Basics

- FFM 170 - Feed Processing **Credits:** 1
- FFM 171 - Pet Food Processing **Credits:** 1
- FFM 172 - Finished Feed and Pet Food Quality Assurance **Credits:** 1
- FFM 179 - Intro to Feed and Pet Food Practicum **Credits:** 1

Equipment Maintenance: 3 credit hours

- FFM 210 - Food and Feed Manufacturing Equipment Maintenance **Credits:** 1

Select 1 Group:

1) Milling Equipment Maintenance

- FFM 215 - Preventative and Predictive Maintenance: Milling Specific **Credits:** 1
- FFM 225 - Milling Equipment Maintenance Practicum **Credits:** 1

2) Baking Equipment Maintenance

- FFM 216 - Maintenance Programs: Bakery Specific **Credits:** 1
- FFM 226 - Baking Equipment Maintenance Practicum **Credits:** 1

3) Feed and Pet Food Equipment Maintenance

- FFM 217 - Maintenance Programs: Feed and Pet Food Specific **Credits:** 1
- FFM 227 - Feed Equipment Maintenance Practicum **Credits:** 1

Advanced Manufacturing Management: 3 credit hours

- FFM 250 - Advanced Food and Feed Manufacturing Management **Credits:** 1

Select 1 Group:

1) Advanced Milling Management

- FFM 251 - Advanced Milling Management **Credits:** 1
- FFM 252 - Advanced Milling Manufacturing Management Practicum **Credits:** 1

2) Advanced Baking Management

- FFM 261 - Advanced Bakery Management **Credits:** 1
- FFM 262 - Advanced Baking Manufacturing Management Practicum **Credits:** 1

3) Advanced Feed and Pet Food Management

- FFM 271 - Advanced Feed and Pet Food Management **Credits:** 1
- FFM 272 - Advanced Feed and Pet Food Manufacturing Management Practicum **Credits:** 1

Food and Feed Safety: 2 credit hours

- FFM 280 - Introduction to Food and Feed Safety **Credits:** 1
  Select 1 course:
- FFM 285 - Food Safety Principles in Milling and Baking **Credits:** 1
- FFM 287 - Advanced Feed and Pet Food Safety **Credits:** 1

Major Support Courses: 25-27 credit hours

Agricultural Safety: 3 credit hours

- ASMS 120 - Intro to Food and Feed Manufacturing Employee Safety **Credits:** 1
- ASMS 220 - Employee Safety in Grain Handling Facilities **Credits:** 1
- ASMS 221 - Safety Applications Practicum **Credits:** 1

Computer Applications: 1-3 credit hours

Select 1 course:

(other computer applications courses as approved by the program director)

- ASI 290 - Computer Applications for Animal Sciences and Industry **Credits:** 3
  CIS

Specialization Electives: 9 credit hours

Select 9 hours:

AGRON AGTEC ASI ASMS ATM ECET ENTOM FDSCI FFM FNDH GRSC IMSE MET

Management Electives: 12 credit hours

Select 1 Course:

- LEAD 212 - Introduction to Leadership Concepts **Credits:** 2-3
- MANGT 220 - Principles of Management **Credits:** 3
  Select 9 hours:
  ACCTG AGEC BUS ENTRP FINAN LEAD MANGT MIS MKTG SALES

Free Electives

Complete additional courses, if needed, to total 60 hours.

Total Hours Required for Graduation: 60

Bachelor of Science

Bakery Science and Management - Cereal Chemistry (BS)

A major in bakery science trains students for administrative, research, production, and executive positions in the baking industry. Bakery science offers students two options; production management or cereal chemistry. Students selecting the production management option will take classes to prepare them for jobs in sales, product development or production management. Those choosing the cereal chemistry option learn about quality control or research and development.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program

Major Required Courses: 32-34 credit hours

- GRSC 100 - Foundations in Grain Science and Industry **Credits:** 1
- GRSC 150 - Principles of Milling **Credits:** 2
- GRSC 151 - Principles of Milling Laboratory **Credits:** 1
- GRSC 405 - Grain Analysis Techniques **Credits:** 2
  OR
- FDSCI 625 - Food Analysis **Credits:** 3
- GRSC 591 - Internship in Grain Science **Credits:** 1
- GRSC 600 - Practicum in Bakery Technology I **Credits:** 1
- GRSC 602 - Cereal Science **Credits:** 3
- GRSC 625 - Flour and Dough Testing **Credits:** 3
- GRSC 635 - Baking Science I **Credits:** 2
- GRSC 636 - Baking Science I Laboratory **Credits:** 2
- GRSC 637 - Baking Science II **Credits:** 3
- GRSC 638 - Baking Science II Laboratory **Credits:** 1
- GRSC 651 - Food and Feed Product Protection **Credits:** 2
  OR
- FDSCI 690 - Principles of HACCP and Preventive Controls for Human Food **Credits:** 3
  Specialization electives: See departmental list **Credits / Units:** 6
- GRSC 670 - Bakery Layout and Management **Credits:** 2

Major Support Requirements 53-55 credit hours

Natural Sciences: 42-44 credit hours

- BIOCH 521 - General Biochemistry **Credits:** 3
- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 255 - General Microbiology **Credits:** 4

Select Chemistry 1 or Honors Chemistry 1

- CHM 210 - Chemistry I **Credits:** 4
- CHM 220 - Honors Chemistry I **Credits:** 5

Select Chemistry 2 or Honors Chemistry 2

- CHM 230 - Chemistry II **Credits:** 4
- CHM 250 - Honors Chemistry II **Credits:** 5
- CHM 500 - General Physical Chemistry **Credits:** 3
- CHM 531 - Organic Chemistry I **Credits:** 3
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
- CHM 550 - Organic Chemistry II **Credits:** 3
- PHYS 213 - Engineering Physics I **Credits:** 5
- FDSCI 501 - Food Chemistry **Credits:** 3
- FDSCI 600 - Food Microbiology **Credits:** 2
- FDSCI 601 - Food Microbiology Lab **Credits:** 2

Quantitative Studies: 8 credit hours

The courses with a KSC designation are required if not met through University Core Requirements.

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- STAT 225 - Introduction to Statistics **Credits:** 3
  KSC-030

Management Electives: 3 credit hours

See departmental list

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Unrestricted Electives as needed to meet 120 credit hours

Unrestricted Electives as needed to meet 120 credit hours

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Bakery Science and Management - Production Management (BS)

A major in bakery science trains students for administrative, research, production, and executive positions in the baking industry. Bakery science offers students two options; production management or cereal chemistry. Students selecting the production management option will take classes to prepare them for jobs in sales, product development or production management. Those choosing the cereal chemistry option learn about quality control or research and development.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Major Requirements:

Major Required Courses: 41-43 credit hours

- GRSC 100 - Foundations in Grain Science and Industry **Credits:** 1
- GRSC 150 - Principles of Milling **Credits:** 2
- GRSC 151 - Principles of Milling Laboratory **Credits:** 1
- GRSC 405 - Grain Analysis Techniques **Credits:** 2
  OR
- FDSCI 625 - Food Analysis **Credits:** 3
- GRSC 540 - Process Calculations in Food Systems **Credits:** 3
- GRSC 591 - Internship in Grain Science **Credits:** 1
- GRSC 600 - Practicum in Bakery Technology I **Credits:** 1
- GRSC 602 - Cereal Science **Credits:** 3
- GRSC 625 - Flour and Dough Testing **Credits:** 3
- GRSC 635 - Baking Science I **Credits:** 2
- GRSC 636 - Baking Science I Laboratory **Credits:** 2
- GRSC 637 - Baking Science II **Credits:** 3
- GRSC 638 - Baking Science II Laboratory **Credits:** 1
- GRSC 651 - Food and Feed Product Protection **Credits:** 2
  OR
- FDSCI 690 - Principles of HACCP and Preventive Controls for Human Food **Credits:** 3
  Specialization Electives: see departmental list **Credits / Units:** 12
  https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html **Credits / Units:** 12
- GRSC 670 - Bakery Layout and Management **Credits:** 2

Major Support Requirements: 44-46 credit hours

Natural Sciences: 29-32 Credit Hours

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 255 - General Microbiology **Credits:** 4
- FDSCI 600 - Food Microbiology **Credits:** 2
- FDSCI 601 - Food Microbiology Lab **Credits:** 2

Choose 1 course

- CHM 210 - Chemistry I **Credits:** 4
- CHM 220 - Honors Chemistry I **Credits:** 5

Choose 1 course

- CHM 230 - Chemistry II **Credits:** 4
- CHM 250 - Honors Chemistry II **Credits:** 5

Choose 1 course

- PHYS 113 - General Physics I **Credits:** 4
- PHYS 213 - Engineering Physics I **Credits:** 5

Select 1 group (5 hours)

- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
- CHM 350 - General Organic Chemistry **Credits:** 3

AND

- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
- CHM 531 - Organic Chemistry I **Credits:** 3

AND

- CHM 532 - Organic Chemistry Laboratory **Credits:** 2

Quantitative Studies: 3 credit hours

The courses with a KSC designation are required if not met through University Core Requirements.

Statistics

- STAT 225 - Introduction to Statistics **Credits:** 3

KSC-030

Math (select 1 course)

- MATH 205 - General Calculus **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Management Electives: 12 credit hours

Management requirement: 3 credit hours

Select 3 hours:

MANGT

Business/Management electives: 9 credit hours

Select 9 hours:

See departmental list

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Unrestricted Electives as needed to meet 120 credit hours

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Total Hours Required for Graduation: 120

Feed and Pet Food Science - Production & Management (BS)

A degree in feed and pet food science (production) covers areas such as grain handling, regulatory compliance, feed formulation, quality and safety, and pet food processing. This program prepares students for careers in the growing animal food production area.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program

Major Support Courses (35-39 credit hours)

Natural Sciences: (20-23 credit hours)

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
- BIOL 255 - General Microbiology **Credits:** 4
  (Select 1 course)
- CHM 110 - General Chemistry **Credits:** 3
- CHM 210 - Chemistry I **Credits:** 4
- CHM 220 - Honors Chemistry I **Credits:** 5
  (Select 1 course)
- PHYS 113 - General Physics I **Credits:** 4
- PHYS 213 - Engineering Physics I **Credits:** 5

Quantitative Studies: (3-4 credit hours)

If not met through K-State Core requirements, STAT 225 is required.

Statistics

- STAT 225 - Introduction to Statistics **Credits:** 3

Mathematics

(Select 1 course)

KSC-030

- MATH 205 - General Calculus **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Business and Management: (12 credit hours)

Accounting (Select 3 hours)

- BUS 251 - Financial Accounting **Credits:** 3
- BUS 252 - Managerial Accounting **Credits:** 3

Business Management Electives (Select 9 hours) Credits / Units: 9
See Departmental List **Credits / Units:** 9
https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html **Credits / Units:** 9

Major Required Courses: (50 credit hours)

- ASI 202 - Domestic Animal Nutrition **Credits:** 3
- GRSC 100 - Foundations in Grain Science and Industry **Credits:** 1
- GRSC 101 - Fundamentals of Grain Processing **Credits:** 3
- GRSC 112 - Feed and Pet Food Experience **Credits:** 1
- GRSC 150 - Principles of Milling **Credits:** 2
- GRSC 210 - CAD Flow Sheets for Grain Processes **Credits:** 3
- GRSC 310 - Materials Handling **Credits:** 2
- GRSC 312 - Introduction to Feed and Pet Food Processing **Credits:** 3
- GRSC 540 - Process Calculations in Food Systems **Credits:** 3
- GRSC 591 - Internship in Grain Science **Credits:** 1
- GRSC 612 - Advanced Feed Technology II and Laboratory **Credits:** 3
- GRSC 615 - Animal Food Safety **Credits:** 1
- GRSC 620 - Extrusion Processing in the Food and Feed Industries **Credits:** 4
- GRSC 645 - Pet Food Processing **Credits:** 3
- GRSC 651 - Food and Feed Product Protection **Credits:** 2
- GRSC 655 - Feed Mill Plant Design **Credits:** 2

Specialization Electives (Select 9 hours) Credits / Units: 9
See departmental list **Credits / Units:** 9
https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html **Credits / Units:** 9

- GRSC 661 - Qualities of Feed Ingredients **Credits:** 3

Unrestricted Electives as needed to meet 120 credit hours

Unrestricted Electives as needed to meet 120 credit hours

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Feed and Pet Food Science - Science (BS)

A degree in feed and pet food science covers areas such as grain handling, regulatory compliance, feed formulation, quality and safety, and pet food processing. This program prepares students for careers in the growing animal food production area. The science option provides core classes needed for veterinary or graduate school.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program

Major Support Courses (44-48 credit hours)

Natural Sciences: (32-36 credit hours)

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 255 - General Microbiology **Credits:** 4
- BIOCH 521 - General Biochemistry **Credits:** 3

  Select 1 course
- PHYS 113 - General Physics I **Credits:** 4
- PHYS 213 - Engineering Physics I **Credits:** 5

  Select 1 course
- PHYS 114 - General Physics II **Credits:** 4
- PHYS 214 - Engineering Physics II **Credits:** 5

  Select 1 course
- CHM 210 - Chemistry I **Credits:** 4

- CHM 220 - Honors Chemistry I **Credits:** 5
  Select 1 course
- CHM 230 - Chemistry II **Credits:** 4
- CHM 250 - Honors Chemistry II **Credits:** 5
  Select 1 group
- CHM 350 - General Organic Chemistry **Credits:** 3
  AND
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
- CHM 531 - Organic Chemistry I **Credits:** 3
  AND
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2

Quantitative Studies: (3-4 credit hours)

The courses with a KSC designation are required if not met through University Core Requirements.

Statistics

- STAT 225 - Introduction to Statistics **Credits:** 3 *KSC-030*
  Mathematics
  (Select 1 course)
- MATH 205 - General Calculus **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Management Electives: (9 credit hours)

(Select 9 hours)

See departmental list

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Major Required Courses: (42 credit hours)

- ASI 202 - Domestic Animal Nutrition **Credits:** 3
- GRSC 100 - Foundations in Grain Science and Industry **Credits:** 1
- GRSC 101 - Fundamentals of Grain Processing **Credits:** 3
- GRSC 112 - Feed and Pet Food Experience **Credits:** 1
- GRSC 312 - Introduction to Feed and Pet Food Processing **Credits:** 3
- GRSC 591 - Internship in Grain Science **Credits:** 1
- GRSC 612 - Advanced Feed Technology II and Laboratory **Credits:** 3
- GRSC 615 - Animal Food Safety **Credits:** 1
- GRSC 620 - Extrusion Processing in the Food and Feed Industries **Credits:** 4
- GRSC 645 - Pet Food Processing **Credits:** 3
- GRSC 650 - Nutritional Impacts of Processing **Credits:** 3
- GRSC 651 - Food and Feed Product Protection **Credits:** 2
- GRSC 655 - Feed Mill Plant Design **Credits:** 2
  Specialization Electives Credits / Units: 8
  (Select 8 hours) Credits / Units: 8
  See departmental list **Credits / Units:** 8

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html **Credits / Units:** 8

- GRSC 661 - Qualities of Feed Ingredients **Credits:** 3

Unrestricted Electives as needed to meet 120 credit hours

Unrestricted Electives as needed to meet 120 credit hours

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Food Science and Industry - Business and Operations Management (BS)

This curriculum deals with all aspects of the food industry—both theoretical and practical—from producing raw materials through processing and packaging to marketing finished foods. The curriculum balances fundamental principles and practical applications of food science within a flexible program that permits students to tailor education to personal career goals. Students choose between three options, science, food business and operations management, or technology for their degree.

Graduates are needed to manage and supervise sophisticated food manufacturing industries that produce poultry, fresh and processed meat, dairy products, bakery goods, frozen and canned fruits and vegetables, confections, and snack foods. Job placement and starting salaries have been excellent.

Imaginative and well-trained people are needed in research and product development to create new and innovative products and processes. Some graduates work with producers to improve the quality of raw materials. Persons trained in HACCP and food safety, microbiology, quality assurance, and evaluation are needed to help food processors meet more stringent consumer and government requirements. Others are involved in selling, merchandising, advertising, or managing food operations. Government regulatory agencies also hire food scientists to assure public health, nutrition, and food labeling. If students have foreign language capabilities, international food industry jobs are available.

Very important to the student's course of study is the flexibility of restricted electives that the student selects by consultation with their academic advisor. This gives the student an opportunity to design a personalized, well-rounded curriculum. Often students can obtain a minor in such areas as business, cereal chemistry, economics, agribusiness, and leadership by careful selection of required minor courses.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program

Communications: 6 credit hours

Select 1 course

- COMM 106 - Public Speaking I **Credits:** 3
- COMM 109 - Public Speaking 1A, Honors **Credits:** 3

Select 1 course

- COMM 311 - Business and Professional Speaking **Credits:** 3
- COMM 321 - Advanced Public Speaking **Credits:** 3
- ENGL 417 - Written Communication for the Workplace **Credits:** 3
- ENGL 510 - Introduction to Professional Writing **Credits:** 3
- ENGL 516 - Written Communication for the Sciences **Credits:** 3

Natural Sciences: 21 credit hours

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 255 - General Microbiology **Credits:** 4

Select 1 course

- CHM 210 - Chemistry I **Credits:** 4
- CHM 220 - Honors Chemistry I **Credits:** 5

Select 1 course

- CHM 230 - Chemistry II **Credits:** 4
- CHM 250 - Honors Chemistry II **Credits:** 5

Select 5 hours

- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
- CHM 350 - General Organic Chemistry **Credits:** 3
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2

Quantitative Studies: 3 credit hours

The courses with a KSC designation are required if not met through University Core Requirements.

If not met through K-State Core requirements, STAT 225 is required.

Select 1 course

- MATH 205 - General Calculus **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Select 1 course

- STAT 225 - Introduction to Statistics **Credits:** 3 *KSC-030*
- STAT 240 - Biometrics I **Credits:** 3
- STAT 250 - Business and Economic Statistics I **Credits:** 3

Business, Management & Economics Electives: 15 credit hours

Students are strongly encouraged to complete a business-related minor (e.g. Agricultural Business, Agricultural Economics, Marketing, Management, etc.) or certificate (e.g., Professional Selling, etc.).

Any courses with the following prefixes: ACCTG, AGEC, BUS, ECON, ENTRP, FINAN, MANGT, MIS, MKTG, SALES.

Minimum of 12 credit hours must be 300-level or above

Food Science Foundations 0-1 credit hours

- FDSCI 101 - Foundations in Food Science & Industry **Credits:** 1
  OR
- FDSCI 301 - Transfer Foundations in FDSCI **Credits:** 0

Food Science Core: 29 credit hours

Must have a 2.000 GPA average in core food science classes.

- FNDH 132 - Basic Nutrition **Credits:** 3
- FDSCI 202 - Introduction to Food Science **Credits:** 3
- FDSCI 305 - Fundamentals of Food Processing **Credits:** 3
- FDSCI 310 - Food Science Professional Preparation **Credits:** 1
- FDSCI 335 - Food Products Evaluation **Credits:** 2
- FDSCI 500 - Food Science Seminar **Credits:** 1
- FDSCI 501 - Food Chemistry **Credits:** 3
- FDSCI 600 - Food Microbiology **Credits:** 2
- FDSCI 601 - Food Microbiology Lab **Credits:** 2
- FDSCI 640 - Research and Development of Food Products **Credits:** 3
- FDSCI 690 - Principles of HACCP and Preventive Controls for Human Food **Credits:** 3
  Select 1 course
- FDSCI 695 - Quality Assurance of Food Products **Credits:** 3
- FDSCI 625 - Food Analysis **Credits:** 3
- GRSC 540 - Process Calculations in Food Systems **Credits:** 3

Processing Electives: minimum 8 credits

Minimum 8 hrs from at least 2 commodity areas – Dairy, Grain, Meat, or Fruit/Vegetable. Both lecture and lab components are required in instances where lecture and lab components are separate course numbers.

See departmental list

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Unrestricted electives as needed to meet 120 credit hours

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Food Science and Industry - Science (BS)

This curriculum deals with all aspects of the food industry—both theoretical and practical—from producing raw materials through processing and packaging to marketing finished foods. The curriculum balances fundamental principles and practical applications of food science within a flexible program that permits students to tailor education to personal career goals. Students choose between three options, science, food business and operations management or technology for their degree. The program is approved by the Institute of Food Technologists.

Graduates are needed to manage and supervise sophisticated food manufacturing industries that produce poultry, fresh and processed meat, dairy products, bakery goods, frozen and canned fruits and vegetables, confections, and snack foods. Job placement and starting salaries have been excellent.

Imaginative and well-trained people are needed in research and product development to create new and innovative products and processes. Some graduates work with producers to improve the quality of raw materials. Persons trained in HACCP and food safety, microbiology, quality assurance, and evaluation are needed to help food processors meet more stringent consumer and government requirements. Others are involved in selling, merchandising, advertising, or managing food operations. Government regulatory agencies also hire food scientists to assure public health, nutrition, and food labeling. If students have foreign language capabilities, international food industry jobs are available.

Very important to the student's course of study is the flexibility of restricted electives that the student selects by consultation with their academic advisor. This gives the student an opportunity to design a personalized, well-rounded curriculum. Often students can obtain a minor in such areas as business, cereal chemistry, economics, agribusiness, agricultural technology management, and leadership by careful selection of required minor courses.

The nature of the courses required in this curriculum is very compatible with course requirements of **students interested in pre-veterinary medicine and other pre-professional curriculums such as dentistry, pharmacy, and nursing**. A BS in food science provides excellent training for these students and offers them other job opportunities if needed.

Kansas State University Core: 34-36 Credit Hours

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General Education: K-State Core

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Communications Elective: 6 credit hours

Select 1 course

- COMM 106 - Public Speaking I **Credits:** 3
- COMM 109 - Public Speaking 1A, Honors **Credits:** 3

Select 1 course

- COMM 311 - Business and Professional Speaking **Credits:** 3
- COMM 321 - Advanced Public Speaking **Credits:** 3
- ENGL 417 - Written Communication for the Workplace **Credits:** 3
- ENGL 510 - Introduction to Professional Writing **Credits:** 3
- ENGL 516 - Written Communication for the Sciences **Credits:** 3

Natural Sciences: 28-29 credit hours

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 255 - General Microbiology **Credits:** 4
- BIOCH 521 - General Biochemistry **Credits:** 3

Select 1 course

- CHM 210 - Chemistry I **Credits:** 4
- CHM 220 - Honors Chemistry I **Credits:** 5

Select 1 course

- CHM 230 - Chemistry II **Credits:** 4
- CHM 250 - Honors Chemistry II **Credits:** 5

Select 1 group CHM 350/351 or CHM 531/532

- CHM 350 - General Organic Chemistry **Credits:** 3

AND

- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
- CHM 531 - Organic Chemistry I **Credits:** 3

AND

- CHM 532 - Organic Chemistry Laboratory **Credits:** 2

Select 1 course

- PHYS 113 - General Physics I **Credits:** 4
- PHYS 115 - Descriptive Physics **Credits:** 5
- PHYS 213 - Engineering Physics I **Credits:** 5

Quantitative Studies: 3 credit hours

The courses with a KSC designation are required if not met through University Core Requirements.

- MATH 205 - General Calculus **Credits:** 3

Select 1 course

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Select 1 course

KSC-030

- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 250 - Business and Economic Statistics I **Credits:** 3

Food Science Foundations: 0-1 credit hours

- FDSCI 101 - Foundations in Food Science & Industry **Credits:** 1
  OR
- FDSCI 301 - Transfer Foundations in FDSCI **Credits:** 0

Food Science Core: 33 credit hours

Must have a 2.0 GPA average in core food science classes.

- FNDH 132 - Basic Nutrition **Credits:** 3
- FDSCI 202 - Introduction to Food Science **Credits:** 3
- FDSCI 305 - Fundamentals of Food Processing **Credits:** 3
- FDSCI 310 - Food Science Professional Preparation **Credits:** 1
- FDSCI 335 - Food Products Evaluation **Credits:** 2
- FDSCI 500 - Food Science Seminar **Credits:** 1
- FDSCI 501 - Food Chemistry **Credits:** 3
- FDSCI 600 - Food Microbiology **Credits:** 2
- FDSCI 601 - Food Microbiology Lab **Credits:** 2
- FDSCI 625 - Food Analysis **Credits:** 3
- FDSCI 690 - Principles of HACCP and Preventive Controls for Human Food **Credits:** 3
- GRSC 540 - Process Calculations in Food Systems **Credits:** 3
- GRSC 541 - Process Calculations in Food Systems Laboratory **Credits:** 1
  Choose one of the following:
- FDSCI 640 - Research and Development of Food Products **Credits:** 3
  OR
- FDSCI 695 - Quality Assurance of Food Products **Credits:** 3

Processing and Professional Electives: 14 credit hours

Processing Electives: minimum of 8 credit hours

Minimum 8 credit hours from at least 2 commodity areas – Dairy, Grain, Meat, or Fruit/Vegetable. Both lecture and lab components are required in instances where lecture and lab components are separate course numbers.Credits earned beyond the minimum required for the processing elective block can be applied toward the professional electives block.

See departmental list

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Professional Electives: up to 6 credit hours

Up to 6 credit hours. Credits earned beyond the minimum required for the processing elective block can be applied toward the professional electives block.

See departmental list

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Unrestricted electives as needed to meet 120 credit hours

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Food Science and Industry - Technology (BS)

This curriculum deals with all aspects of the food industry—both theoretical and practical—from producing raw materials through processing and packaging to marketing finished foods. The curriculum balances fundamental principles and practical applications of food science within a flexible program that permits students to tailor education to personal career goals. Students choose between three options, science, food business and operations management or technology for their degree.

Graduates are needed to manage and supervise sophisticated food manufacturing industries that produce poultry, fresh and processed meat, dairy products, bakery goods, frozen and canned fruits and vegetables, confections, and snack foods. Job placement and starting salaries have been excellent.

Imaginative and well-trained people are needed in research and product development to create new and innovative products and processes. Some graduates work with producers to improve the quality of raw materials. Persons trained in HACCP and food safety, microbiology, quality assurance, and evaluation are needed to help food processors meet more stringent consumer and government requirements. Others are involved in selling, merchandising, advertising, or managing food operations. Government regulatory agencies also hire food scientists to assure public health, nutrition, and food labeling. If students have foreign language capabilities, international food industry jobs are available.

Very important to the student's course of study is the flexibility of restricted electives that the student selects by consultation with their academic advisor. This gives the student an opportunity to design a personalized, well-rounded curriculum. Often students can obtain a minor in such areas as business, cereal chemistry, economics, agribusiness, agricultural technology management, and leadership just by careful selection of required minor courses.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Communications Elective: 6 credit hours

- COMM 106 - Public Speaking I **Credits:** 3
  Select 1 course
- COMM 109 - Public Speaking 1A, Honors **Credits:** 3
  Select 1 course
- COMM 311 - Business and Professional Speaking **Credits:** 3
- COMM 321 - Advanced Public Speaking **Credits:** 3
- ENGL 417 - Written Communication for the Workplace **Credits:** 3
- ENGL 510 - Introduction to Professional Writing **Credits:** 3
- ENGL 516 - Written Communication for the Sciences **Credits:** 3

Natural Sciences: 28-29 credit hours

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 255 - General Microbiology **Credits:** 4
- BIOCH 521 - General Biochemistry **Credits:** 3
  Select 1 course
- CHM 210 - Chemistry I **Credits:** 4
- CHM 220 - Honors Chemistry I **Credits:** 5
  Select 1 course
- CHM 230 - Chemistry II **Credits:** 4
- CHM 250 - Honors Chemistry II **Credits:** 5
- *select 1 group CHM 350/351 or CHM 531/532* CHM 350 - General Organic Chemistry **Credits:** 3
  AND
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
- CHM 531 - Organic Chemistry I **Credits:** 3
  AND
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
- **Select 1 course** PHYS 113 - General Physics I **Credits:** 4
- PHYS 115 - Descriptive Physics **Credits:** 5
- PHYS 213 - Engineering Physics I **Credits:** 5

Quantitative Studies: 3 credit hours

The courses with a KSC designation are required if not met through University Core Requirements.

Select 1 course

- MATH 205 - General Calculus **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
  Select 1 course
  KSC-030
- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 250 - Business and Economic Statistics I **Credits:** 3

Food Science Core: 31 credit hours

Must have a 2.0 GPA average in core food science classes.

- FNDH 132 - Basic Nutrition **Credits:** 3
- FDSCI 202 - Introduction to Food Science **Credits:** 3
- FDSCI 305 - Fundamentals of Food Processing **Credits:** 3
- FDSCI 335 - Food Products Evaluation **Credits:** 2
- FDSCI 500 - Food Science Seminar **Credits:** 1
- FDSCI 501 - Food Chemistry **Credits:** 3
- FDSCI 600 - Food Microbiology **Credits:** 2
- FDSCI 601 - Food Microbiology Lab **Credits:** 2
- FDSCI 690 - Principles of HACCP and Preventive Controls for Human Food **Credits:** 3

Choose 9 credits from the following:

- FDSCI 625 - Food Analysis **Credits:** 3
- FDSCI 640 - Research and Development of Food Products **Credits:** 3
- FDSCI 695 - Quality Assurance of Food Products **Credits:** 3
- GRSC 540 - Process Calculations in Food Systems **Credits:** 3

Processing and Professional Electives: 14 credit hours

Processing Electives: minimum of 8 credit hours

Minimum 8 credit hours from at least 2 commodity areas – Dairy, Grain, Meat, or Fruit/Vegetable. Both lecture and lab components are required in instances where lecture and lab components are separate course numbers.Credits earned beyond the minimum required for the processing elective block can be applied toward the professional electives block.

See departmental list

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Professional Electives: up to 6 credit hours

Up to 6 credit hours. Credits earned beyond the minimum required for the processing elective block can be applied toward the professional electives block.

See departmental list

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Unrestricted electives as needed to meet 120 credit hours

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Milling Science and Management - Chemistry (BS)

Students in milling science and management study all aspects of the grain processing industry, from grain origination to specialty milling with an emphasis on the science and technology of flour milling. There are two options: chemistry and operations. Graduates may choose positions in production areas such as plant managers, plant engineers, and plant superintendents. Others enter fields like research and development, quality control, and technical sales.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Programs

Major Required Courses: 32-34 credit hours

- GRSC 100 - Foundations in Grain Science and Industry **Credits:** 1
- GRSC 150 - Principles of Milling **Credits:** 2
- GRSC 151 - Principles of Milling Laboratory **Credits:** 1
- GRSC 210 - CAD Flow Sheets for Grain Processes **Credits:** 3
- GRSC 310 - Materials Handling **Credits:** 2
- GRSC 500 - Milling Science I **Credits:** 2
- GRSC 501 - Milling Science I Laboratory **Credits:** 2
- GRSC 502 - Milling Science II **Credits:** 2
- GRSC 503 - Milling Science II Laboratory **Credits:** 2
- GRSC 591 - Internship in Grain Science **Credits:** 1
- GRSC 602 - Cereal Science **Credits:** 3
- GRSC 625 - Flour and Dough Testing **Credits:** 3
- GRSC 635 - Baking Science I **Credits:** 2
- GRSC 636 - Baking Science I Laboratory **Credits:** 2
- GRSC 651 - Food and Feed Product Protection **Credits:** 2
  OR
- FDSCI 690 - Principles of HACCP and Preventive Controls for Human Food **Credits:** 3
- GRSC 555 - Cereal Food Plant Design **Credits:** 3
  OR
- GRSC 556 - Pneumatic Conveying of Dry Solids **Credits:** 2
  OR
- GRSC 580 - Milling of Specialty Grains **Credits:** 2

Major Support Requirements: 49-51 credit hours

Natural Sciences: 35-37 credit hours

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 255 - General Microbiology **Credits:** 4
- BIOCH 521 - General Biochemistry **Credits:** 3
- CHM 210 - Chemistry I **Credits:** 4
  OR
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
  OR
- CHM 250 - Honors Chemistry II **Credits:** 5
- CHM 500 - General Physical Chemistry **Credits:** 3
- CHM 531 - Organic Chemistry I **Credits:** 3
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
- CHM 550 - Organic Chemistry II **Credits:** 3
- PHYS 213 - Engineering Physics I **Credits:** 5

Quantitative Studies: 8 credit hours

The courses with a KSC designation are required if not met through University Core Requirements.

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- STAT 225 - Introduction to Statistics **Credits:** 3
  KSC-030

Management Electives: 6 credit hours

Management Electives 3 hours must be 300 or above:

See departmental list

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Unrestricted Electives as needed to meet 120 credit hours

Unrestricted Electives as needed to meet 120 credit hours

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Milling Science and Management - Operations (BS)

Students in milling science and management study all aspects of the grain processing industry, from grain origination to specialty milling with an emphasis on the science and technology of flour milling. There are two options: chemistry and operations. Graduates may choose positions in production areas such as plant managers, plant engineers, and plant superintendents. Others enter fields like research and development, quality control, and technical sales.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Programs

Major Required Courses: 48-50 credit hours

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

- GRSC 100 - Foundations in Grain Science and Industry **Credits:** 1
- GRSC 150 - Principles of Milling **Credits:** 2
- GRSC 151 - Principles of Milling Laboratory **Credits:** 1
- GRSC 210 - CAD Flow Sheets for Grain Processes **Credits:** 3
- GRSC 310 - Materials Handling **Credits:** 2
- GRSC 405 - Grain Analysis Techniques **Credits:** 2
  OR
- FDSCI 625 - Food Analysis **Credits:** 3
- GRSC 500 - Milling Science I **Credits:** 2
- GRSC 501 - Milling Science I Laboratory **Credits:** 2
- GRSC 502 - Milling Science II **Credits:** 2
- GRSC 503 - Milling Science II Laboratory **Credits:** 2
- GRSC 540 - Process Calculations in Food Systems **Credits:** 3
- GRSC 555 - Cereal Food Plant Design **Credits:** 3
- GRSC 556 - Pneumatic Conveying of Dry Solids **Credits:** 2
- GRSC 560 - Electricity and Industrial Power Distribution **Credits:** 3
- GRSC 580 - Milling of Specialty Grains **Credits:** 2
- GRSC 591 - Internship in Grain Science **Credits:** 1
- GRSC 602 - Cereal Science **Credits:** 3
- GRSC 625 - Flour and Dough Testing **Credits:** 3
- GRSC 635 - Baking Science I **Credits:** 2

- GRSC 636 - Baking Science I Laboratory **Credits:** 2
- GRSC 651 - Food and Feed Product Protection **Credits:** 2
  OR
- FDSCI 690 - Principles of HACCP and Preventive Controls for Human Food **Credits:** 3
  Specialization electives: see departmental list **Credits / Units:** 3

Major Support Requirements: 34-38 credit hours

Natural Sciences: 25-28 credit hours

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 255 - General Microbiology **Credits:** 4
- CHM 210 - Chemistry I **Credits:** 4
  OR
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
  OR
- CHM 250 - Honors Chemistry II **Credits:** 5
- PHYS 113 - General Physics I **Credits:** 4
  OR
- PHYS 213 - Engineering Physics I **Credits:** 5
  Select 1 group (5 credit hours)
- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
- CHM 350 - General Organic Chemistry **Credits:** 3
  AND
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
- CHM 531 - Organic Chemistry I **Credits:** 3
  AND
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2

Quantitative Studies: 3-4 credit hours

The courses with a KSC designation are required if not met through University Core Requirements.

Statistics

- STAT 225 - Introduction to Statistics **Credits:** 3
  KSC-030

Math (select 1 course)

- MATH 205 - General Calculus **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Management Electives: 6 credit hours

Management Electives 3 credit hours must be 300 or above:

See departmental list

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Unrestricted Electives as needed to meet 120 credit hours

Unrestricted Electives as needed to meet 120 credit hours

Total Hours Required for Graduation: 120

Unless the requirement block specifies otherwise, courses in the K-State Core can be used to meet one additional degree requirement, with the exception of a degree requirement that is specified as an overlay. K-State Core classes cannot be used to meet requirements for unrestricted electives. Courses outside the K-State Core can only be used to meet one degree requirement, unless the degree requirement is specified as an overlay.

Minor

Bakery Science Minor

This minor is available to students working toward a bachelor's degree at Kansas State University, to graduates of Kansas State University or to non-K-State graduates who hold a baccalaureate or advanced degree.

Requirements

Grain science majors cannot use courses required in their major as part of a bakery science minor.

- GRSC 101 - Fundamentals of Grain Processing **Credits:** 3
- GRSC 602 - Cereal Science **Credits:** 3
- GRSC 625 - Flour and Dough Testing **Credits:** 3
- GRSC 635 - Baking Science I **Credits:** 2
- * GRSC 636 - Baking Science I Laboratory **Credits:** 2
- GRSC 637 - Baking Science II **Credits:** 3
- * GRSC 638 - Baking Science II Laboratory **Credits:** 1

*Note

Requirements for the Laboratory class taken by distance will require the student to complete the same work as on campus students. This work may be done on campus or at appropriate industry locations.

Total credit hours: (16)

Cereal Chemistry Minor

Available for on-campus students only.

Requirements

Grain science majors cannot use courses required in their major as part of a cereal chemistry minor.

- GRSC 150 - Principles of Milling **Credits:** 2

- GRSC 405 - Grain Analysis Techniques **Credits:** 2
- GRSC 602 - Cereal Science **Credits:** 3
- GRSC 625 - Flour and Dough Testing **Credits:** 3

Minimum 8 credit hours from the following list:

- CHM 531 - Organic Chemistry I **Credits:** 3
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
- FDSCI 501 - Food Chemistry **Credits:** 3
- GRSC 620 - Extrusion Processing in the Food and Feed Industries **Credits:** 4
- GRSC 635 - Baking Science I **Credits:** 2
- GRSC 636 - Baking Science I Laboratory **Credits:** 2

Total hours required: (17)

Feed Science Minor

Available for on-campus students only.

- GRSC 312 - Introduction to Feed and Pet Food Processing **Credits:** 3
- GRSC 612 - Advanced Feed Technology II and Laboratory **Credits:** 3
- GRSC 615 - Animal Food Safety **Credits:** 1
- GRSC 655 - Feed Mill Plant Design **Credits:** 2
- GRSC 661 - Qualities of Feed Ingredients **Credits:** 3
- Minimum 3 credit hours from GRSC 300 and above.

Total Minimum Hours Required for Graduation: 16

Food Science and Industry Minor

Students enrolled in any primary undergraduate major can be admitted to the Food Science minor. Intent to complete a minor should be filed prior to enrollment in the final nine credit hours of course work. Selection of the final 9 credits should be done in consultation with the Food Science minor advisor. No more than 6 hours of transfer courses may be used for the minor. Prerequisites and requisites associated with courses for the minor must be followed.

Core Courses (6 credit hours)

- FDSCI 202 - Introduction to Food Science **Credits:** 3
- FDSCI 305 - Fundamentals of Food Processing **Credits:** 3

Food Science elective courses (9 credit hours)

- FDSCI courses greater than 101 (9 credit hours)
    - FDSCI 300 or higher – **minimum one course**

- The following FDSCI courses cannot be applied towards the Food Science minor: FDSCI 101, FDSCI 301, FDSCI 310, FDSCI 500
- up to 6 credits 200-level and above from a non-FDSCI prefix that are directly related to Food Science, or covering topics directly relevant to Food Science, can be applied. **Prior approval of the Food Science minor advisor is required.**

Total credit hours: (15)

Pet Food Science Minor

Available for on-campus students only.

- ASI 520 - Companion Animal Management **Credits:** 3
- GRSC 312 - Introduction to Feed and Pet Food Processing **Credits:** 3
- GRSC 645 - Pet Food Processing **Credits:** 3

Minimum 5 credit hours from the following list:

- ASI 675 - Monogastric Nutrition **Credits:** 1
- ASI 677 - Companion Animal Nutrition **Credits:** 1
- FDSCI 600 - Food Microbiology **Credits:** 2
- FDSCI 690 - Principles of HACCP and Preventive Controls for Human Food **Credits:** 3
- SENS 711 - Pet Food Sensory Analysis **Credits:** 2
- GRSC 612 - Advanced Feed Technology II and Laboratory **Credits:** 3
- GRSC 620 - Extrusion Processing in the Food and Feed Industries **Credits:** 4
- GRSC 661 - Qualities of Feed Ingredients **Credits:** 3
- GRSC 750 - Pet Food Formulation for Commercial Production **Credits:** 1

Total Minimum Hours Required for Graduation: 16

Undergraduate Certificate

Baking Technology Undergraduate Certificate

Baking Technology Certificate offers focused training in areas such as ingredient functionality, dough preparation, baking operations, and quality control, ensuring that graduates are well-prepared to manage and innovate within commercial baking environments. By covering both the technical and practical aspects of baking, the certificate program prepares students to produce high-quality baked goods, adhere to industry standards, and optimize baking operations for consistency and efficiency.

Required Courses: 8 credit hours

- ASMS 120 - Intro to Food and Feed Manufacturing Employee Safety **Credits:** 1
- FFM 110 - Introduction to Grain and Food Manufacturing Industries **Credits:** 1
- FFM 120 - Ingredient Identification and Quality: Cereal Grains **Credits:** 1
- FFM 160 - Bakery Ingredients **Credits:** 1

- FFM 161 - Bakery Processes **Credits:** 1
- FFM 162 - Bakery Products **Credits:** 1
- FFM 169 - Intro to Baking Practicum **Credits:** 1
- FFM 280 - Introduction to Food and Feed Safety **Credits:** 1

Specialization Electives: 7 credit hours

Select 7 hours from the following:

AGRON, AGEC, AGTEC, ASMS, ATM, ENTOM, ETEC, FDSCI, FFM, FNDH, GRSC, IMSE, MET

Total Credit Hours Required: 15

Feed and Pet Food Manufacturing Undergraduate Certificate

This program offers targeted training in areas such as ingredient handling, formulation, processing techniques, and quality control, equipping graduates to manage and innovate within feed and pet food production environments. By covering both the technical and operational aspects of manufacturing, the certificate prepares students to produce high-quality feed and pet food products while adhering to industry standards and safety regulations.

Required Courses: 9 credit hours

- FFM 110 - Introduction to Grain and Food Manufacturing Industries **Credits:** 1
- FFM 111 - Introduction to Feed and Pet Food Manufacturing Industries **Credits:** 1
- FFM 120 - Ingredient Identification and Quality: Cereal Grains **Credits:** 1
- FFM 121 - Ingredient Identification and Quality: Oil Seeds and Legumes **Credits:** 1
- FFM 122 - Ingredient Identification and Quality: Co-products and Additives **Credits:** 1
- FFM 170 - Feed Processing **Credits:** 1
- FFM 171 - Pet Food Processing **Credits:** 1
- FFM 172 - Finished Feed and Pet Food Quality Assurance **Credits:** 1
- FFM 179 - Intro to Feed and Pet Food Practicum **Credits:** 1
- FFM 210 - Food and Feed Manufacturing Equipment Maintenance **Credits:** 1

Specialization Electives: 6 credit hours

Select 6 hours from the following:

AGRON, AGEC, AGTEC, ASI, ASMS, ATM, ENTOM, ETEC, FDSCI, FFM, FNDH, GRSC, IMSE, MET

Total Hours Required: 15

Food Safety and Quality Undergraduate Certificate

A non-degree undergraduate certificate in Food Safety and Quality requires the completion of 20 K-State semester credit hours of Food Science or closely related courses (transfer credit will not be applied).

Eligibility

The Food Safety and Quality non-degree undergraduate certificate is open to students who live in the United States or are active duty American military.

Prerequisite course requirements: College chemistry, biology, and microbiology must be completed before starting the certificate program. Additional course prerequisites may exist for elective courses.

Application Process

The Food Safety and Quality non-degree undergraduate certificate program has an application fee. Apply online and pay the application fee using the undergraduate application. You must be admitted at least 30 days prior to the semester beginning.

Starting Dates

Fall semester begins in late-August, spring semester begins in mid-January, and summer semester begins in mid-May.

Courses

A current listing of courses (and cost per course) can be accessed at the K-State Global Campus website (click on search for an online class). Courses can be used towards a Bachelor Degree.

All information on degrees and courses offered can be accessed via the Food Science Institute website.

Certificate: 20 credit hours

Required Courses: 14 credit hours

- FDSCI 202 - Introduction to Food Science **Credits:** 3
- FDSCI 305 - Fundamentals of Food Processing **Credits:** 3
- FDSCI 600 - Food Microbiology **Credits:** 2
- FDSCI 690 - Principles of HACCP and Preventive Controls for Human Food **Credits:** 3
- FDSCI 695 - Quality Assurance of Food Products **Credits:** 3

Elective Courses: 6 credit hours

- FNDH 132 - Basic Nutrition **Credits:** 3
  OR
- ASI 202 - Domestic Animal Nutrition **Credits:** 3

- ASI 350 - Meat Science **Credits:** 3
- ASI 640 - Poultry Products Technology **Credits:** 3
- FDSCI 501 - Food Chemistry **Credits:** 3
- FDSCI 625 - Food Analysis **Credits:** 3
- FDSCI 710 - Kosher and Halal Food Regulations **Credits:** 2
- FDSCI 730 - A Multidisciplinary Overview of Food Safety and Security **Credits:** 2
- FDSCI 731 - Food Protection and Defense--Essential Concepts **Credits:** 2
- GRSC 602 - Cereal Science **Credits:** 3
- GRSC 645 - Pet Food Processing **Credits:** 3

Total Hours Required: 20

Grain Processing Undergraduate Certificate

This program provides focused training in key areas such as grain cleaning, milling techniques, equipment operation, and quality control, ensuring that graduates are prepared to handle the complex processes involved in transforming raw grain into high-quality flour products. By covering the technical and operational aspects of grain processing and milling, the certificate program prepares students to meet industry standards, improve efficiency, and maintain product consistency and safety.

Required Courses: 9 credit hours

- FFM 110 - Introduction to Grain and Food Manufacturing Industries **Credits:** 1
- FFM 120 - Ingredient Identification and Quality: Cereal Grains **Credits:** 1
- FFM 121 - Ingredient Identification and Quality: Oil Seeds and Legumes **Credits:** 1
- FFM 150 - Preparing Grains **Credits:** 1
- FFM 151 - Milling Process **Credits:** 1
- FFM 152 - Milling Specialty Grains **Credits:** 1
- FFM 159 - Intro to Milling Practicum **Credits:** 1
- FFM 210 - Food and Feed Manufacturing Equipment Maintenance **Credits:** 1
- FFM 280 - Introduction to Food and Feed Safety **Credits:** 1

Specialization Electives: 6 credit hours

Select 6 hours from the following:

AGRON, AGEC, AGTEC, ASMS, ATM, ENTOM, ETEC, FDSCI, FFM, FNDH, GRSC, IMSE, MET

Total Hours Required: 15

Other Program Choices

Bakery Science and Management - Cereal Chemistry (BS) Academic Degree Map

First Year	Hours	K-State Core

Semester 1		
Social and Behavioral Sciences Requirement	3	**KSC 050**
CHM 210 - Chemistry I	4	
English Requirement	3	**KSC 010**
GRSC 100 - Foundations in Grain Science and Industry	1	
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 14		
Semester 2		
CHM 230 - Chemistry II	4	
English Requirement	3	**KSC 010**
GRSC 150 - Principles of Milling	2	
GRSC 151 - Principles of Milling Laboratory	1	
MATH 220 - Analytic Geometry and Calculus I	4	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 17		
Second Year		
Semester 1		
BIOL 198 - Principles of Biology	4	
MATH 221 - Analytic Geometry and Calculus II	4	
Social and Behavioral Sciences Requirement	3	**KSC 050**
Natural and Physical Sciences Requirement	4	**KSC 040**
Total Credits: 15		
Semester 2		

CHM 531 - Organic Chemistry I	3	
Arts and Humanities Requirement	3	**KSC 060**
Oral Communication Requirement	3	**KSC 020**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
BIOL 255 - General Microbiology	4	
Total Credits: 16		
Third Year		
Semester 1		
FDSCI 600 - Food Microbiology	2	
FDSCI 601 - Food Microbiology Lab	2	
GRSC 602 - Cereal Science	3	
GRSC 625 - Flour and Dough Testing	3	
GRSC 636 - Baking Science I Laboratory	2	
CHM 550 - Organic Chemistry II	3	
GRSC 405 - Grain Analysis Techniques	2	
Total Credits: 16		
Semester 2		
BIOCH 521 - General Biochemistry	3	
GRSC 600 - Practicum in Bakery Technology I	1	
GRSC 637 - Baking Science II	3	
GRSC 638 - Baking Science II Laboratory	1	
CHM 532 - Organic Chemistry Laboratory	2	
Specialization Elective	4	
Total Credits: 14		

Fourth Year		
Semester 1		
GRSC 591 - Internship in Grain Science	1	
Management Elective	3	
Specialization Elective	3	
PHYS 213 - Engineering Physics I	5	
STAT 225 - Introduction to Statistics	3	**KSC 030**
Total Credits: 15		
Semester 2		
GRSC 625 - Flour and Dough Testing	3	
GRSC 651 - Food and Feed Product Protection	2	
GRSC 670 - Bakery Layout and Management	2	
CHM 500 - General Physical Chemistry	3	
FDSCI 501 - Food Chemistry	3	
Total Credits: 13		
Total Program Hours: 120		

Bakery Science and Management - Production Management (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
Social and Behavioral Sciences Requirement (Recommended AGEC 120 or ECON 120)	3	**KSC 050**
CHM 210 - Chemistry I	4	
English Requirement	3	**KSC 010**
GRSC 100 - Foundations in Grain Science and Industry	1	

Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 14		
Semester 2		
CHM 230 - Chemistry II	4	
English Requirement	3	**KSC 010**
GRSC 150 - Principles of Milling	2	
GRSC 151 - Principles of Milling Laboratory	1	
MATH 205 - General Calculus	3	
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Second Year		
Semester 1		
BIOL 198 - Principles of Biology	4	
Communication Requirement	3	**KSC 020**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Social and Behavioral Sciences Requirement	3	**KSC 050**
Natural and Physical Sciences Requirement	4	**KSC 040**
Total Credits: 17		
Semester 2		
GRSC 405 - Grain Analysis Techniques	2	
PHYS 113 - General Physics I	4	
Free Electives {Institutionally Designated Area}	3	**KSC 070**

BIOL 255 - General Microbiology	4		
Total Credits: 13			
Third Year			
Semester 1			
FDSCI 600 - Food Microbiology	2		
FDSCI 601 - Food Microbiology Lab	2		
GRSC 602 - Cereal Science	3		
GRSC 635 - Baking Science I	2		
GRSC 636 - Baking Science I Laboratory	2		
Management Elective	3		
Total Credits: 14			
Semester 2			
GRSC 540 - Process Calculations in Food Systems	3		
GRSC 600 - Practicum in Bakery Technology I	1		
GRSC 637 - Baking Science II	3		
GRSC 638 - Baking Science II Laboratory	1		
Management Elective	3		
BIOCH 265 - Introductory Organic and Biochemistry **OR**	5		
CHM 350 - General Organic Chemistry **AND**	3		
CHM 351 - General Organic Chemistry Laboratory	2		
Total Credits: 16			
Fourth Year			

GRSC 591 - Internship in Grain Science	1		
Management Elective	3		
Specialization Elective	3		
Specialization Elective	3		
Specialization Elective	3		
STAT 225 - Introduction to Statistics	3	**KSC 030**	
Total Credits: 16			
Semester 2			
GRSC 625 - Flour and Dough Testing	3		
GRSC 651 - Food and Feed Product Protection	2		
GRSC 670 - Bakery Layout and Management	2		
Management Elective	3		
Specialization Elective	3		
Unrestricted Elective	1		
Total Credits: 14			
Total Program Hours: 120			

Feed and Pet Food Science - Production & Management (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
CHM 110 - General Chemistry	3		
English Requirement	3	**KSC 010**	
GRSC 100 - Foundations in Grain Science and Industry	1		

Specialization Elective (See Departmental List)	3		
Unrestricted Elective	3		
Communication Requirement	3	**KSC 020**	
Total Credits: 16			
Semester 2			
Social and Behavioral Sciences Requirement (Recommmended Econ 110)	3	**KSC 050**	
English Requirement	3	**KSC 010**	
GRSC 112 - Feed and Pet Food Experience	1		
ASI 218 - Fundamentals of Nutrition	3		
BIOL 198 - Principles of Biology	4	**KSC 040**	
Total Credits: 14			
Second Year			
Semester 1			
Unrestricted Elective	3	**KSC 070**	
GRSC 312 - Introduction to Feed and Pet Food Processing	3		
MATH 205 - General Calculus	3		
GRSC 150 - Principles of Milling	2		
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Arts and Humanities Requirement	3	**KSC 060**	

Management Elective	3		
GRSC 612 - Advanced Feed Technology II and Laboratory	3		
Unrestricted Elective	3	**KSC 070**	
Total Credits: 15			
Third Year			
Semester 1			
GRSC 620 - Extrusion Processing in the Food and Feed Industries	4		
Specialization Elective	3		
Management Elective (Recommended AGEC 120)	3		
GRSC 210 - CAD Flow Sheets for Grain Processes	3		
PHYS 113 - General Physics I	4		
Total Credits: 17			
Semester 2			
GRSC 661 - Qualities of Feed Ingredients	3		
GRSC 651 - Food and Feed Product Protection	2		
BIOCH 265 - Introductory Organic and Biochemistry	5		
GRSC 310 - Materials Handling	2		
STAT 225 - Introduction to Statistics	3	**KSC 030**	
Total Credits: 15			
Fourth Year			
Semster 1			
GRSC 615 - Animal Food Safety	1		

GRSC 591 - Internship in Grain Science	1		
GRSC 645 - Pet Food Processing	3		
Unrestricted Elective	2		
Specialization Elective	3		
One course (3 credits) in accounting	3		
Total Credits: 13			
Semester 2			
GRSC 540 - Process Calculations in Food Systems	3		
GRSC 655 - Feed Mill Plant Design	2		
Specialization Elective	3		
Management Elective	3		
BIOL 255 - General Microbiology	4		
Total Credits: 15			
Total Program Hours 120			

Feed and Pet Food Science - Science (BS) Academic Degree Map

First Year	Hours	K-state Core	
Semester 1			
Social and Behavioral Sciences Requirement (Recommended AGEC 120 or ECON 120)	3	**KSC 050**	
CHM 210 - Chemistry I	4		
English Requirement	3	**KSC 010**	
GRSC 100 - Foundations in Grain Science and Industry	1		
Specialization Elective	3		

Total Credits: 14		
Semester 2		
CHM 230 - Chemistry II	4	
English Requirement	3	
GRSC 112 - Feed and Pet Food Experience	1	
MATH 205 - General Calculus	3	
Communication Requirement	3	**KSC 020**
Unrestricted Elective	3	
Total Credits: 17		
Second Year		
Semester 1		
BIOL 198 - Principles of Biology	4	
GRSC 312 - Introduction to Feed and Pet Food Processing	3	
Social and Behavioral Sciences Requirement	3	**KSC 050**
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 14		
Semester 2		
ASI 218 - Fundamentals of Nutrition	3	
Specialization Elective	3	
GRSC 612 - Advanced Feed Technology II and Laboratory	3	
Unrestricted Elective	3	**KSC 070**
Arts and Humanities Requirement	3	**KSC 060**

Total Credits: 15		
Third Year		
Semester 1		
GRSC 620 - Extrusion Processing in the Food and Feed Industries	4	
BIOL 255 - General Microbiology	4	
Specialization Elective	3	
PHYS 113 - General Physics I	4	**KSC 040**
Total Credits: 15		
Semester 2		
GRSC 661 - Qualities of Feed Ingredients	3	
GRSC 651 - Food and Feed Product Protection	2	
BIOCH 521 - General Biochemistry	3	
PHYS 114 - General Physics II	4	
STAT 225 - Introduction to Statistics	3	**KSC 030**
Total Credits: 15		
Fourth Year		
Semester 1		
GRSC 615 - Animal Food Safety	1	
GRSC 591 - Internship in Grain Science	1	
GRSC 645 - Pet Food Processing	3	
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	

Unrestricted Elective	3	**KSC 070**
Management Elective	3	
Total Credits: 16		
Semester 2		
GRSC 655 - Feed Mill Plant Design	2	
GRSC 650 - Nutritional Impacts of Processing	3	
GRSC 499 - Undergraduate Research in Grain Science	0-3	
Management Elective	3	
Management Elective	3	
Total Credits: 14		
Total Program Hours: 120		

Food Science and Industry - Business and Operations Management (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
Communication Requirement (recommended Comm 106)	3	**KSC 020**
FDSCI 101 - Foundations in Food Science & Industry	1	
FDSCI 202 - Introduction to Food Science	3	
BIOL 198 - Principles of Biology	4	**KSC 040**
FNDH 132 - Basic Nutrition	3	
Total Credits: 14		

Semester 2		
Social and Behavioral Sciences Requirement	3	**KSC 050**
CHM 210 - Chemistry I	4	
MATH 205 - General Calculus	3	
English Requirement	3	**KSC 010**
COMM 106 - Public Speaking I **OR**	3	**KSC 020**
Unrestricted Elective (if Comm 106 taken in semester 1)	3	
Total Credits: 16		
Second Year		
Semester 1		
English Requirement	3	**KSC 010**
Social and Behavioral Sciences Requirement	3	**KSC 050**
Arts and Humanitites Requirement	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
CHM 230 - Chemistry II	4	
Total Credits: 16		
Semester 2		
Arts and Humanities Requirement	3	**KSC 060**
FDSCI 305 - Fundamentals of Food Processing	3	
FDSCI 310 - Food Science Professional Preparation	1	
Business Elective	3	
Business Elective	3	
Processing Elective	3	

Total Credits: 16			
Third Year			
Semester 1			
BIOCH 265 - Introductory Organic and Biochemistry	5		
STAT 225 - Introduction to Statistics	3	**KSC 030**	
Business Elective	3		
Professional Elective	2		
Unrestricted Electives	1		
Total Credits: 14			
Semester 2			
BIOL 255 - General Microbiology	4		
Business Elective	3		
Communications Elective	3		
Processing Elective	2		
Professional Elective	2		
Total Credits: 14			
Fourth Year			
Semester 1			
FDSCI 500 - Food Science Seminar	1		
FDSCI 600 - Food Microbiology	2		
FDSCI 601 - Food Microbiology Lab	2		
FDSCI 690 - Principles of HACCP and Preventive Controls for Human Food	3		

FDSCI 640 - Research and Development of Food Products	3	
FDSCI 695 - Quality Assurance of Food Products **OR**	3	
Professional Elective **OR**	3	
FDSCI 627 - Chemical Methods of Food Analysis **AND**	2	
FDSCI 628 - Physical Methods of Food Analysis	2	
Total Credits: 15		
Semester 2		
FDSCI 501 - Food Chemistry	3	
Business Elective	3	
Processing Elective	3	
FDSCI 695 - Quality Assurance of Food Products **OR**	3	
Professional Elective **OR**	3	
FDSCI 627 - Chemical Methods of Food Analysis **AND**	2	
FDSCI 628 - Physical Methods of Food Analysis	2	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Total Program Hours: 120		

Food Science and Industry - Science (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
Communication Requirement	3	**KSC 020**

FDSCI 101 - Foundations in Food Science & Industry	1	
FDSCI 202 - Introduction to Food Science	3	
BIOL 198 - Principles of Biology	4	**KSC 040**
FNDH 132 - Basic Nutrition	3	
Total Credits: 14		
Semester 2		
COMM 106 - Public Speaking I **OR**	3	**KSC 020**
Unrestricted Elective if (Comm 106 taken in semester 1)	3	
Social and Behavioral Sciences Requirement	3	**KSC 050**
CHM 210 - Chemistry I	4	
MATH 205 - General Calculus	3	
English Requirement	3	**KSC 010**
Total Credits: 16		
Second Year		
Semester 1		
English Requirement	3	**KSC 010**
Social and Behavioral Sciences	3	**KSC 050**
Arts and Humanities	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
CHM 230 - Chemistry II	4	
Total Credits: 16		
Semester 2		

Arts and Humanities Requirement	3	**KSC 060**
FDSCI 305 - Fundamentals of Food Processing	3	
FDSCI 310 - Food Science Professional Preparation	1	
PHYS 113 - General Physics I	4	
Processing Elective	3	
Total Credits: 14		
Third Year		
Semester 1		
FDSCI 690 - Principles of HACCP and Preventive Controls for Human Food	3	
STAT 225 - Introduction to Statistics	3	**KSC 030**
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 14		
Semester 2		
BIOL 255 - General Microbiology	4	
BIOCH 521 - General Biochemistry	3	
Communications Elective	3	
Processing Elective	2	
Professional Elective	3	
Total Credits: 15		
Fourth Year		

Semester 1		
FDSCI 500 - Food Science Seminar	1	
FDSCI 600 - Food Microbiology	2	
FDSCI 601 - Food Microbiology Lab	2	
FDSCI 627 - Chemical Methods of Food Analysis	2	
FDSCI 628 - Physical Methods of Food Analysis	2	
FDSCI 640 - Research and Development of Food Products **OR**	3	
Professional Elective (if taking FDSCI 695 in spring)	4	
Unrestricted Elective	2	
Total Credits: 15		
Semester 2		
FDSCI 501 - Food Chemistry	3	
GRSC 540 - Process Calculations in Food Systems	3	
GRSC 541 - Process Calculations in Food Systems Laboratory	1	
Processing Elective	3	
Professional Elective	3	
FDSCI 695 - Quality Assurance of Food Products **OR**	3	
Professional Elective (if taking FDSCI 640 in fall)	3	
Total Credits: 16		
Total Program Hours: 120		

Food Science and Industry - Technology (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		

First Year	Hours	K-State Core	
Semester 1			
English Requirement	3	**KSC 010**	
FDSCI 202 - Introduction to Food Science	3		
BIOL 198 - Principles of Biology	4	**KSC 040**	
FNDH 132 - Basic Nutrition	3		
Communication Requirement (recommended Comm 106)	3	**KSC 020**	
Total Credits: 16			
Semester 2			
COMM 106 - Public Speaking I **OR**	3	**KSC 020**	
Unrestricted Elective (if Comm 106 taken in semester 1)	3		
Social and Behaviroal Sciences	3	**KSC 050**	
CHM 210 - Chemistry I	4		
MATH 205 - General Calculus	3		
Unrestricted Elective	3		
Total Credits: 16			
Second Year			
Semester 1			
English Requirement	3	**KSC 010**	
Social and Behaviroal Sciences Requirement	3	**KSC 050**	
Arts and Humanitites Requirement	3	**KSC 060**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
CHM 230 - Chemistry II	4		

Total Credits: 16		
Semester 2		
Arts and Humaities Requirement	3	**KSC 060**
FDSCI 305 - Fundamentals of Food Processing	3	
PHYS 113 - General Physics I	4	
Processing Elective	3	
Total Credits: 13		
Third Year		
Semester 1		
FDSCI 690 - Principles of HACCP and Preventive Controls for Human Food	3	
STAT 225 - Introduction to Statistics	3	**KSC 030**
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 14		
Semester 2		
BIOL 255 - General Microbiology	4	
BIOCH 521 - General Biochemistry	3	
Communications Elective	3	
Processing Elective	2	
Professional Elective	3	
Total Credits: 15		

Fourth Year			
Semester 1			
FDSCI 600 - Food Microbiology	2		
FDSCI 601 - Food Microbiology Lab	2		
Professional Elective	3		
FDSCI core: select 10 credit hours	4		
FDSCI core: select 10 credit hours	3		
Total Credits: 14			
Semester 2			
FDSCI 500 - Food Science Seminar	1		
FDSCI 501 - Food Chemistry	3		
Processing Elective	3		
Professional Elective	3		
Professional Elective	3		
FDSCI core: select 10 credit hours	3		
Total Credits: 16			
Total Program Hours: 120			

Milling Science and Management - Chemistry (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
Social and Behavioral Sciences Requirement (Recommended AGEC 120 or ECON 120)	3	**KSC 050**	

CHM 210 - Chemistry I	4	**KSC 040**
English Requirement	3	**KSC 010**
GRSC 100 - Foundations in Grain Science and Industry	1	
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 14		
Semester 2		
CHM 230 - Chemistry II	4	
Communication Requirement	3	**KSC 020**
GRSC 150 - Principles of Milling	2	
GRSC 151 - Principles of Milling Laboratory	1	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Social and Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Second Year		
Semester 1		
BIOL 198 - Principles of Biology	4	
English Requirement	3	**KSC 010**
GRSC 210 - CAD Flow Sheets for Grain Processes	3	
MATH 220 - Analytic Geometry and Calculus I	4	
Total Credits: 14		
Semester 2		
Arts and Humanities Requirement	3	**KSC 060**

GRSC 405 - Grain Analysis Techniques	2	
GRSC 310 - Materials Handling	2	
GRSC 500 - Milling Science I	2	
GRSC 501 - Milling Science I Laboratory	2	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 14		
Third Year		
Semester 1		
CHM 531 - Organic Chemistry I	3	
CHM 532 - Organic Chemistry Laboratory	2	
GRSC 502 - Milling Science II	2	
GRSC 503 - Milling Science II Laboratory	2	
GRSC 556 - Pneumatic Conveying of Dry Solids	2	
GRSC 635 - Baking Science I	2	
GRSC 636 - Baking Science I Laboratory	2	
GRSC 591 - Internship in Grain Science	1	
Total Credits: 16		
Semester 2		
BIOCH 521 - General Biochemistry	3	
CHM 550 - Organic Chemistry II	3	
Management Elective	3	
Specialization Elective	3	
MATH 221 - Analytic Geometry and Calculus II	4	

Total Credits: 16			
Fourth Year			
Semester 1			
GRSC 602 - Cereal Science	3		
STAT 225 - Introduction to Statistics	3	**KSC 030**	
PHYS 213 - Engineering Physics I	5		
Management Elective	3		
Total Credits: 14			
Semester 2			
GRSC 625 - Flour and Dough Testing	3		
GRSC 651 - Food and Feed Product Protection	2		
CHM 500 - General Physical Chemistry	3		
BIOL 255 - General Microbiology	4		
Specialization Elective	4		
Total Credits: 16			
Total Program Hours: 120			

Milling Science and Management - Operations (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
Social and Behavioral Sciences Requirement	3	**KSC 050**	
CHM 210 - Chemistry I	4	**KSC 030**	

English Requirement	3	**KSC 010**	
GRSC 100 - Foundations in Grain Science and Industry	1		
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 14			
Semester 2			
CHM 230 - Chemistry II	4		
Communication Requirement	3	**KSC 020**	
GRSC 150 - Principles of Milling	2		
GRSC 151 - Principles of Milling Laboratory	1		
MATH 205 - General Calculus	3		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Second Year			
Semester 1			
BIOL 198 - Principles of Biology	4		
English Requirement	3	**KSC 010**	
GRSC 210 - CAD Flow Sheets for Grain Processes	3		
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 16			
Semester 2			
GRSC 310 - Materials Handling	2		

GRSC 405 - Grain Analysis Techniques	2		
GRSC 500 - Milling Science I	2		
GRSC 501 - Milling Science I Laboratory	2		
STAT 225 - Introduction to Statistics	3	**KSC 030**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 14			
Third Year			
Semester 1			
BIOCH 265 - Introductory Organic and Biochemistry	5		
GRSC 502 - Milling Science II	2		
GRSC 503 - Milling Science II Laboratory	2		
GRSC 556 - Pneumatic Conveying of Dry Solids	2		
GRSC 635 - Baking Science I	2		
GRSC 636 - Baking Science I Laboratory	2		
GRSC 591 - Internship in Grain Science	1		
Total Credits: 16			
Semester 2			
GRSC 540 - Process Calculations in Food Systems	3		
GRSC 560 - Electricity and Industrial Power Distribution	3		
Management Elective	3		
Specialization Elective	3		
Specialization Elective	2		
Total Credits: 14			

Fourth Year			
Semester 1			
PHYS 113 - General Physics I	4		
GRSC 602 - Cereal Science	3		
BIOL 255 - General Microbiology	4		
Mangement Elective	3		
Mangement Elective	3		
Total Credits: 17			
Semester 2			
GRSC 625 - Flour and Dough Testing	3		
GRSC 651 - Food and Feed Product Protection	2		
GRSC 555 - Cereal Food Plant Design	3		
GRSC 580 - Milling of Specialty Grains	2		
Management Elective	3		
Total Credits: 13			
Total Program Hours: 120			

Horticulture and Natural Resources

Steve Keeley, Head

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The Department of Horticulture and Natural Resources is a multi-disciplinary department offering undergraduate programs in horticulture, park management and conservation, and wildlife and outdoor enterprise management. Each of these programs offers multiple options to meet the career objectives of a wide variety of individuals. Departmental faculty participate in research, extension, and academic programs in these diverse fields which have a positive impact on the quality of life and enhancing the environment. Individual students may have opportunities working with faculty on research or extension programs.

Horticulture programs

K-State offers a four-year curriculum in horticulture. The Department of Horticulture and Natural Resources also participates in an interdepartmental program in food science and industry.

Horticulture is the science and art of growing plants for environmental improvement, aesthetic value, intensive food production, or social-therapeutic effects. The horticulture program is designed for those seeking to move into the production or service sectors of horticulture or pursue careers in science. Students completing this program also meet requirements for entrance into graduate programs across the United States and can meet the education requirements for certification by the American Registry of Certified Professionals in Agronomy, Crops, and Soils.

All students are required to take a core of general courses in addition to the agricultural, horticultural, and business courses. Students in the horticulture program will be expected to choose a specialization in production, golf course and sports turf operations, horticulture science, and landscape horticulture. The horticulture science specialization provides a stronger foundation in basic sciences for graduate studies. Students interested in pursuing careers in industry research or extension can also follow this specialization. After the sophomore year, students are required to complete a three- or six-month internship at an approved site.

Career opportunities for students graduating with a degree in horticulture exist in various arenas, including production, landscape and management, floral design, botanic gardens, arboreta, garden center operation, athletic grounds management, and golf course operations.

Opportunities exist with the various support industries in the area of sales of fertilizers, chemicals, plant material, seeds, containers, and various other supplies; product development; breeding and seed production companies; and trade magazines. Horticulture majors obtaining a minor in plant pathology or entomology will also find opportunities in horticultural pest diagnosis and consulting. Students considering a career in extension should consider pursuing a Master of Science degree.

Horticulture minor

The department offers a minor in horticulture consisting of 16 credit hours of course work. The minor is available to undergraduate students in any primary major. To be considered a candidate for the minor, the student must file an application with supervisor of the horticulture minor program. This should be done prior to completion of the final 9 credit hours required for the minor.

Park Management and Conservation program

K-State offers a four-year curriculum in park management and conservation. All students are required to take a core of courses deemed central to the outdoor recreation profession.

The park management curriculum prepares young people to manage the resource where outdoor recreation takes place including the soil, water, flora, fauna and human visitors. A broad array of course work including wildlife management, history, entomology and other social and natural sciences equip the individual for this resource management task.

Society faces a future of making potentially infinite demands upon finite natural resources. Appropriate management of America's natural and recreation resources will require the best efforts of dedicated, trained professional managers. A basic objective of recreation resource managers is to provide essential goods and services while maintaining the highest environmental

standards. A primary focus of recreation and park professionals is the supply of quality leisure opportunities that lead to an enhanced "quality of life."

Career choices for the park management professional include a wide array of governmental and non-governmental options. The majority of graduates pursue employment as program specialists and unit managers at municipal and recreation agencies; state park, wildlife and natural resource departments, and land management agencies of the federal government such as the U.S. Army Corps of Engineers and the National Park Service. Others choose to work for outdoor and environmentally based associations and organizations. A few utilize the entrepreneurial training to operate their own enterprises.

Wildlife and Outdoor Enterprise Management program

The Kansas State University Wildlife and Outdoor Enterprise Management (WOEM) degree program is the first Bachelor of Science (B.S.) degree to train professional operational managers for hunting/shooting preserves and resorts, gamebird production companies, fishing resorts and outdoor experience companies. Wildlife and related outdoor enterprises exist in all 50 states, Canada, Central and South America, Europe, Africa, Australia and New Zealand.

While students take courses in wildlife and fisheries management, this program is not a traditional wildlife and fisheries biology program of study. To create professional managers, this program incorporates a series of business, hospitality management, natural resources, wildlife and fisheries management courses with training in selected outdoor skills.

Outdoor skills courses in the WOEM Program include: firearms and firearms maintenance; rifle and handgun range design construction and operations; bowhunting equipment and skills; sporting clays range development and operations; trap and skeet range development and operations.

The students also take the following operations courses: big game management, upland gamebird management, waterfowl and wetlands management, and principles and practices of freshwater fishing.

Bachelor of Science

Horticulture - Golf Course and Sports Turf Operations Management (BS)

K-State offers a four-year curriculum in horticulture. The Department of Horticulture and Natural Resources also participates in an interdepartmental program in food science and industry.

Horticulture is the science and art of growing plants for environmental improvement, aesthetic value, intensive food production, or social-therapeutic effects. The horticulture program is designed for those seeking to move into the production or service sectors of horticulture or pursue careers in science. Students completing this program also meet requirements for entrance into graduate programs across the United States and can meet the education requirements for certification by the American Registry of Certified Professionals in Agronomy, Crops, and Soils.

All students are required to take a core of general courses in addition to the agricultural, horticultural, and business courses. Students in the horticulture program will be expected to choose a specialization in production, golf course and sports turf operations, horticulture science, and landscape horticulture. The horticulture science specialization provides a stronger foundation in basic sciences for graduate studies. Students interested in pursuing careers in industry research or extension can also follow this specialization. After the sophomore year, students are required to complete a three- or six-month internship at an approved site.

Career opportunities for students graduating with a degree in horticulture exist in various arenas, including production, landscape and management, floral design, botanic gardens, arboreta, garden center operation, athletic grounds management, and golf course operations.

Opportunities exist with the various support industries in the area of sales of fertilizers, chemicals, plant material, seeds, containers, and various other supplies; product development; breeding and seed production companies; and trade magazines. Horticulture majors obtaining a minor in plant pathology or entomology will also find opportunities in horticultural pest diagnosis and consulting. Students considering a career in extension should consider pursuing a Master of Science degree.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Horticulture Support Requirements: (24 credit hours)

MATH 160 is the designated **Math Pathway course** *for this program.* **Any course in KSC-030, including those on the Advanced Math list, may be applied to meet this requirement.**

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3
  KSC-030
- BIOL 198 - Principles of Biology **Credits:** 4
- CHM 110 - General Chemistry **Credits:** 3
- CHM 111 - General Chemistry Laboratory **Credits:** 1
- AGRON 205 - Soils **Credits:** 3
- AGRON 206 - Soils Laboratory **Credits:** 1
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3
- ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
  OR
- ECON 110 - Principles of Macroeconomics **Credits:** 3
  OR
- ECON 120 - Principles of Microeconomics **Credits:** 3

Golf Course and Sports Turf Support Requirements: (21 credit hours)

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Communications Elective (See Department List)

- ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
- MANGT 220 - Principles of Management **Credits:** 3

Business Elective (Must be 300 level or above) See Department List
Hospitality Management Electives (Must be 300 level or above) See Department List

- MKTG 250 - Introduction to Marketing **Credits:** 3

Programs

Horticulture Core Requirements: (18 credit hours)

- HNR 101 - Introduction to Horticulture and Natural Resources **Credits:** 1
- HORT 201 - Principles of Horticultural Science **Credits:** 4
- HORT 282 - Foundations of Horticultural Pest Management **Credits:** 1
- HORT 350 - Plant Propagation **Credits:** 3
- HORT 274 - Landscape Plants I **Credits:** 3
- HORT 490 - Horticulture Internship **Credits:** 3-6
- HORT 550 - Horticultural Irrigation Systems **Credits:** 3

Golf Course and Sports Turf Operations Option Requirements: (23 credit hours)

- HORT 490 - Horticulture Internship **Credits:** 3-6
- HORT 508 - Business of Sustainable Landscape Management **Credits:** 2
- HORT 585 - Arboriculture **Credits:** 3
- HORT 515 - Basic Turfgrass Culture **Credits:** 3
- HORT 587 - Turfgrass Diseases and Their Management **Credits:** 1
- HORT 588 - Turfgrass Weeds and Their Management **Credits:** 1
- HORT 589 - Turfgrass Insects and Their Management **Credits:** 1
- HORT 706 - Advanced Culture of Golf and Sports Turf **Credits:** 3
- HORT 570 - Greenhouse Operations Management **Credits:** 3
  OR
- HORT 600 - Herbaceous Plant Production **Credits:** 3
  HORT Elective (Must be 300 level or above) See Department List **Credits:** 3

Unrestricted Electives needed to reach 120 credit hours

Unrestricted Electives needed to reach 120 credit hours

Total Hours Required for Graduation: 120

Horticulture - Horticulture Production (BS)

K-State offers a four-year curriculum in horticulture. The Department of Horticulture and Natural Resources also participates in an interdepartmental program in food science and industry.

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All students are required to take a core of general courses in addition to the agricultural, horticultural, and business courses. Students in the horticulture program will be expected to choose a specialization in production, golf course and sports turf operations, horticulture science, and landscape horticulture. The horticulture science specialization provides a stronger foundation in basic sciences for graduate studies. Students interested in pursuing careers in industry research or extension can also follow this specialization. After the sophomore year, students are required to complete a three- or six-month internship at an approved site.

Career opportunities for students graduating with a degree in horticulture exist in various arenas, including production, landscape and management, floral design, botanic gardens, arboreta, garden center operation, athletic grounds management, and golf course operations.

Opportunities exist with the various support industries in the area of sales of fertilizers, chemicals, plant material, seeds, containers, and various other supplies; product development; breeding and seed production companies; and trade magazines. Horticulture majors obtaining a minor in plant pathology or entomology will also find opportunities in horticultural pest diagnosis and consulting. Students considering a career in extension should consider pursuing a Master of Science degree.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Horticulture Support Requirements: (24 credit hours)

MATH 160 is the designated **Math Pathway course** *for this program. Any course in KSC-030, including those on the Advanced Math list, may be applied to meet this requirement.*

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3
  KSC-030
- BIOL 198 - Principles of Biology **Credits:** 4
- CHM 110 - General Chemistry **Credits:** 3
- CHM 111 - General Chemistry Laboratory **Credits:** 1
- AGRON 205 - Soils **Credits:** 3
- AGRON 206 - Soils Laboratory **Credits:** 1
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3
- ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
  OR
- ECON 110 - Principles of Macroeconomics **Credits:** 3
  OR

- ECON 120 - Principles of Microeconomics **Credits:** 3

Horticulture Production Support Requirements: (12 credit hours)

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Communications Elective: See departmental list
Business Electives: See departmental list

- BIOL 500 - Plant Physiology **Credits:** 3

Programs

Horticulture Core Requirements: (18 credit hours)

- HNR 101 - Introduction to Horticulture and Natural Resources **Credits:** 1
- HORT 201 - Principles of Horticultural Science **Credits:** 4
- HORT 282 - Foundations of Horticultural Pest Management **Credits:** 1
- HORT 350 - Plant Propagation **Credits:** 3
- HORT 274 - Landscape Plants I **Credits:** 3
- HORT 490 - Horticulture Internship **Credits:** 3-6
- HORT 550 - Horticultural Irrigation Systems **Credits:** 3

Horticulture Production Option Requirements: (14 credit hours)

- HORT 375 - Landscape Plants II **Credits:** 3
  OR
- HORT 377 - Interior Plantscaping **Credits:** 3
- HORT 570 - Greenhouse Operations Management **Credits:** 3
- HORT 600 - Herbaceous Plant Production **Credits:** 3
- HORT 520 - Fruit Production **Credits:** 3
  OR
- HORT 560 - Vegetable Crop Production **Credits:** 3
- PLPTH 590 - Landscape Diseases **Credits:** 2
  OR
- HORT 587 - Turfgrass Diseases and Their Management **Credits:** 1
  AND
- HORT 588 - Turfgrass Weeds and Their Management **Credits:** 1

Horticulture Production Option Electives: (18 credit hours)

Horticulture Production Option Electives: See departmental list

(13 hours must be 300 level or above)

Unrestricted Electives needed to reach 120 credit hours

Unrestricted Electives needed to reach 120 credit hours

Total Hours Required for Graduation: 120

Horticulture - Landscape Horticulture (BS)

K-State offers a four-year curriculum in horticulture. The Department of Horticulture and Natural Resources also participates in an interdepartmental program in food science and industry.

Horticulture is the science and art of growing plants for environmental improvement, aesthetic value, intensive food production, or social-therapeutic effects. The horticulture program is designed for those seeking to move into the production or service sectors of horticulture or pursue careers in science. Students completing this program also meet requirements for entrance into graduate programs across the United States and can meet the education requirements for certification by the American Registry of Certified Professionals in Agronomy, Crops, and Soils.

All students are required to take a core of general courses in addition to the agricultural, horticultural, and business courses. Students in the horticulture program will be expected to choose a specialization in production, golf course and sports turf operations, horticulture science, and landscape horticulture. The horticulture science specialization provides a stronger foundation in basic sciences for graduate studies. Students interested in pursuing careers in industry research or extension can also follow this specialization. After the sophomore year, students are required to complete a three- or six-month internship at an approved site.

Career opportunities for students graduating with a degree in horticulture exist in various arenas, including production, landscape and management, floral design, botanic gardens, arboreta, garden center operation, athletic grounds management, and golf course operations.

Opportunities exist with the various support industries in the area of sales of fertilizers, chemicals, plant material, seeds, containers, and various other supplies; product development; breeding and seed production companies; and trade magazines. Horticulture majors obtaining a minor in plant pathology or entomology will also find opportunities in horticultural pest diagnosis and consulting. Students considering a career in extension should consider pursuing a Master of Science degree.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Horticulture Support Requirements: (24 credit hours)

MATH 160 is the designated **Math Pathway course** *for this program. Any course in KSC-030, including those on the Advanced Math list, may be applied to meet this requirement.*

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3
  KSC-030
- BIOL 198 - Principles of Biology **Credits:** 4
- CHM 110 - General Chemistry **Credits:** 3
- CHM 111 - General Chemistry Laboratory **Credits:** 1
- AGRON 205 - Soils **Credits:** 3
- AGRON 206 - Soils Laboratory **Credits:** 1
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3
- ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
  OR
- ECON 110 - Principles of Macroeconomics **Credits:** 3
  OR
- ECON 120 - Principles of Microeconomics **Credits:** 3

Landscape Horticulture Support Requirements: (12 credit hours)

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Communications Elective See departmental list
Business Elective See Departmental List

- BIOL 500 - Plant Physiology **Credits:** 3

Programs

Horticulture Core Requirements: (18 credit hours)

- HNR 101 - Introduction to Horticulture and Natural Resources **Credits:** 1
- HORT 201 - Principles of Horticultural Science **Credits:** 4
- HORT 282 - Foundations of Horticultural Pest Management **Credits:** 1
- HORT 350 - Plant Propagation **Credits:** 3
- HORT 274 - Landscape Plants I **Credits:** 3
- HORT 490 - Horticulture Internship **Credits:** 3-6
- HORT 550 - Horticultural Irrigation Systems **Credits:** 3

Landscape Horticulture Option Requirements: (24 credit hours)

- HORT 275 - Horticultural Design I **Credits:** 3
- HORT 375 - Landscape Plants II **Credits:** 3
- HORT 508 - Business of Sustainable Landscape Management **Credits:** 2
- HORT 510 - Horticultural Design II **Credits:** 3
- HORT 515 - Basic Turfgrass Culture **Credits:** 3
- HORT 551 - Landscape Contracting and Construction **Credits:** 2
- HORT 585 - Arboriculture **Credits:** 3
- HORT 570 - Greenhouse Operations Management **Credits:** 3

OR

- HORT 600 - Herbaceous Plant Production **Credits:** 3
- HORT 587 - Turfgrass Diseases and Their Management **Credits:** 1
  AND
- HORT 588 - Turfgrass Weeds and Their Management **Credits:** 1
  OR
- PLPTH 590 - Landscape Diseases **Credits:** 2

Landscape Horticulture Option Electives: (8 credit hours)

Horticulture Electives from department list

(6 hours must be 300 level or above)

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Unrestricted Electives as needed to reach 120 credit hours

Unrestricted Electives as needed to reach 120 credit hours

Total Hour Required for Graduation: 120

Horticulture - Science (BS)

K-State offers a four-year curriculum in horticulture. The Department of Horticulture and Natural Resources also participates in an interdepartmental program in food science and industry.

Horticulture is the science and art of growing plants for environmental improvement, aesthetic value, intensive food production, or social-therapeutic effects. The horticulture program is designed for those seeking to move into the production or service sectors of horticulture or pursue careers in science. Students completing this program also meet requirements for entrance into graduate programs across the United States and can meet the education requirements for certification by the American Registry of Certified Professionals in Agronomy, Crops, and Soils.

All students are required to take a core of general courses in addition to the agricultural, horticultural, and business courses. Students in the horticulture program will be expected to choose a specialization in production, golf course and sports turf operations, horticulture science, and landscape horticulture. The horticulture science specialization provides a stronger foundation in basic sciences for graduate studies. Students interested in pursuing careers in industry research or extension can also follow this specialization. After the sophomore year, students are required to complete a three- or six-month internship at an approved site.

Career opportunities for students graduating with a degree in horticulture exist in various arenas, including production, landscape and management, floral design, botanic gardens, arboreta, garden center operation, athletic grounds management, and golf course operations.

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General Education: K-State Core

Program Requirements

The curriculum for this major assumes students enter college prepared to take Calculus.

Horticulture Major Support Requirements: (24 credit hours)

The courses with a KSC designation are required if not met through University Core Requirements.

- MATH 205 - General Calculus **Credits:** 3
  KSC-030
- BIOL 198 - Principles of Biology **Credits:** 4
- CHM 210 - Chemistry I **Credits:** 4
- AGRON 205 - Soils **Credits:** 3
- AGRON 206 - Soils Laboratory **Credits:** 1
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3
- ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
  OR
- ECON 110 - Principles of Macroeconomics **Credits:** 3
  OR
- ECON 120 - Principles of Microeconomics **Credits:** 3

Horticulture Science Option Support Requirements: (29-30 credit hours)

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

- CHM 230 - Chemistry II **Credits:** 4
- CHM 350 - General Organic Chemistry **Credits:** 3
- PHYS 113 - General Physics I **Credits:** 4
- BIOL 500 - Plant Physiology **Credits:** 3
- BIOL 501 - Plant Physiology Lab **Credits:** 1
- ASI 500 - Genetics **Credits:** 3
  OR
- BIOL 398 - Principles of Genetics **Credits:** 4
  Writing Elective See Departmental List
  Plant Science Elective See Departmental List

- PLPTH 590 - Landscape Diseases **Credits:** 2

Programs

Horticulture Core Requirements: (18 credit hours)

- HNR 101 - Introduction to Horticulture and Natural Resources **Credits:** 1
- HORT 201 - Principles of Horticultural Science **Credits:** 4
- HORT 282 - Foundations of Horticultural Pest Management **Credits:** 1
- HORT 350 - Plant Propagation **Credits:** 3
- HORT 274 - Landscape Plants I **Credits:** 3
- HORT 490 - Horticulture Internship **Credits:** 3-6
- HORT 550 - Horticultural Irrigation Systems **Credits:** 3

Horticulture Science Option Requirements: (15 credit hours)

- HORT 570 - Greenhouse Operations Management **Credits:** 3
  HORT electives: See departmental list
- HORT 710 - Plant Cell, Tissue and Organ Culture **Credits:** 3

Unrestricted Electives as needed to reach 120 credit hours

Unrestricted Electives as needed to reach 120 credit hours

Total Hours Required for Graduation: 120

Park Management and Conservation (BS)

K-State offers a four-year curriculum in park management and conservation. All students are required to take a core of courses deemed central to the outdoor recreation profession.

The park management curriculum prepares young people to manage the resource where outdoor recreation takes place including the soil, water, flora, fauna and human visitors. A broad array of course work including wildlife management, history, entomology and other social and natural sciences equip the individual for this resource management task.

Society faces a future of making potentially infinite demands upon finite natural resources. Appropriate management of America's natural and recreation resources will require the best efforts of dedicated, trained professional managers. A basic objective of recreation resource managers is to provide essential goods and services while maintaining the highest environmental standards. A primary focus of recreation and park professionals is the supply of quality leisure opportunities that lead to an enhanced "quality of life."

Career choices for the park management professional include a wide array of governmental and non-governmental options. The majority of graduates pursue employment as program specialists and unit managers at municipal and recreation agencies; state park, wildlife and natural resource departments, and land management agencies of the federal government such as the U.S. Army Corps of Engineers and the National Park Service. Others choose to work for outdoor and environmentally based associations and organizations. A few utilize the entrepreneurial training to operate their own enterprises.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

PMC Program Requirements

Communications 3 Credit Hours

- COMM 311 - Business and Professional Speaking **Credits:** 3

Science and Math: 18 Credit Hours

If not met through K-State Core requirements, MATH 160 is required.

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3
  KSC-030
- AGRON 205 - Soils **Credits:** 3
- AGRON 206 - Soils Laboratory **Credits:** 1
- BIOL 198 - Principles of Biology **Credits:** 4
- CHM 110 - General Chemistry **Credits:** 3
- CHM 111 - General Chemistry Laboratory **Credits:** 1
- GEOG 302 - Cartography and Thematic Mapping **Credits:** 3
  Choose one of the following:
- GEOL 100 - Earth in Action **Credits:** 3
- GEOG 121 - Introductory Physical Geography: Earth Systems Science **Credits:** 3

Economics: 3 Credit Hours

Choose one of the following courses:

- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
  OR
- AGEC 121 - Honors Agricultural Economics and Agribusiness **Credits:** 3
  OR
- ECON 110 - Principles of Macroeconomics **Credits:** 3
  OR
- ECON 111 - Principles of Macroeconomics - Honors **Credits:** 3
  OR
- ECON 120 - Principles of Microeconomics **Credits:** 3

PMC Professional Core: 38-39 Credit Hours

- HNR 101 - Introduction to Horticulture and Natural Resources **Credits:** 1
- PMC 110 - Environmental Education and Leadership **Credits:** 1
- PMC 210 - Intro to Outdoor Recreation **Credits:** 3
- PMC 275 - Introduction to Natural Resource Management **Credits:** 3
- PMC 350 - Parks and Outdoor Recreation Practicum **Credits:** 1-2
- PMC 475 - Natural History for Park Professionals **Credits:** 3
- PMC 489 - Outdoor Recreation Program and Event Development **Credits:** 3
- PMC 492 - Internship in Parks and Recreation **Credits:** 6
- PMC 580 - Park Operations and Maintenance Management **Credits:** 4
- PMC 620 - Park Planning and Design **Credits:** 3
- PMC 635 - Methods of Environmental Interpretation **Credits:** 3
- PMC 690 - Parks and Recreation Administration **Credits:** 4
- PMC 410 - Natural Resource Based Tourism **Credits:** 3

PMC Specialization Electives - 18 credit hours

At least 9 credit hours must be 300 level or above

See Departmental List

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Unrestricted Electives as needed to reach 120 credit hours

Unrestricted Electives as needed to reach 120 credit hours

Total Hours for Graduation: 120

Wildlife and Outdoor Enterprise Management (BS)

The Wildlife and Outdoor Enterprise Management (WOEM) degree program offers students the ability to earn a Bachelor of Science (B.S.) degree and train them to be professional operational managers for hunting/shooting preserves and resorts, gamebird production companies, fishing resorts and other outdoor experience companies. To create professional managers, this program takes an interdisciplinary approach and incorporates a series of business, hospitality management, natural resources, wildlife and fisheries management courses with training in selected outdoor skills, such as firearms maintenance, bowhunting skills, and wildlife habitat maintenance.

Kansas State University Core: 34-36 Credit Hours

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general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

WOEM Major Support Requirements: 29 Credit Hours

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Biology Courses: 12 Credit Hours

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 221 - Organismic Biology **Credits:** 5
- BIOL 333 - Introduction to Fisheries, Wildlife, Conservation and Environmental Biology **Credits:** 3

Chemistry Courses: 4 Credit Hours

Select four hours:

- CHM 110 - General Chemistry **Credits:** 3
- CHM 111 - General Chemistry Laboratory **Credits:** 1
- CHM 210 - Chemistry I **Credits:** 4
- CHM 220 - Honors Chemistry I **Credits:** 5

Agricultural Courses: 13 Credit Hours

- AGRON 205 - Soils **Credits:** 3
- AGRON 206 - Soils Laboratory **Credits:** 1
- AGRON 251 - Range Management **Credits:** 3
- ASI 635 - Gamebird Production and Management **Credits:** 3
- PMC 275 - Introduction to Natural Resource Management **Credits:** 3

WOEM Major Requirements: 30 Credit Hours

- HNR 101 - Introduction to Horticulture and Natural Resources **Credits:** 1
- WOEM 350 - Fauna and Flora of the Great Plains **Credits:** 3
- WOEM 400 - Pond and Sportfish Management **Credits:** 3
- WOEM 555 - Big Game Management **Credits:** 3
- WOEM 560 - Upland Game Bird Management **Credits:** 3
- WOEM 561 - Waterfowl and Wetlands Management **Credits:** 3
- WOEM 562 - Advanced Wildlife Habitat Management **Credits:** 4

- WOEM 570 - Internship for Wildlife and Outdoor Enterprise Management **Credits:** 6-10
- WOEM 595 - Wildlife and Outdoor Enterprise Management Senior Seminar **Credits:** 1
- WOEM 620 - Human-Wildlife Conflicts **Credits:** 3

WOEM Sporting Requirements: 5 Credit Hours

- WOEM 201 - Firearms, Cartridges and Ballistics **Credits:** 1
- WOEM 202 - Rifle and Handgun Range Design, Construction and Operations **Credits:** 1
- WOEM 203 - Bowhunting Equipment and Skills **Credits:** 1
- WOEM 205 - Sporting Clays Range Development and Operations **Credits:** 1
- WOEM 206 - Trap and Skeet Range Development and Operations **Credits:** 1

Hospitality Elective: 3 Credit Hours

HM Elective: See Departmental List (HM200-HM799)

https://www.ag.k-state.edu/academics/student-handbook/departcourselists.html

Business or Entrepreneurship Track: 15 Credit Hours

Students must choose the Business Track or the Entrepreneurship Track (15 credit hours)

Business Track: 15 Credit Hours

- ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
- ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
- FINAN 450 - Principles of Finance **Credits:** 3
- MANGT 220 - Principles of Management **Credits:** 3
- MKTG 250 - Introduction to Marketing **Credits:** 3

Entrepreneurship Track: 15 Credit Hours

- ENTRP 340 - Business Innovation and the Entrepreneurial Mindset **Credits:** 3
- ENTRP 575 - Entrepreneurship and Innovation Capstone **Credits:** 3

Select 9 Credit Hours from list below:

- ENGL 455 - Exploring Creativity **Credits:** 3
- ENTRP 350 - Technology and Innovation Management **Credits:** 3
- ENTRP 411 - Intrapreneurship **Credits:** 3
- ENTRP 435 - Entrepreneurial Experience **Credits:** 3
- ENTRP 466 - Digital Business **Credits:** 3
- ENTRP 520 - Social Entrepreneurship **Credits:** 3
- ENTRP 540 - Entrepreneurial Consulting **Credits:** 3
- FINAN 561 - Finance for Entrepreneurs **Credits:** 3

Unrestricted Electives as needed to reach 120 credit hours

Unrestricted Electives as needed to reach 120 credit hours

Credit Grand Total for Program of Study: 120

Minor

Floral Design Minor

The minor in floral design expands skill sets to incorporate floristry into event planning, and explores floral design as a profession.

Required Courses: 9 credit hours

- HORT 210 - Concepts of Floral Design **Credits:** 3
- HORT 391 - Independent Study in Floral Design **Credits:** 3
- HORT 410 - Floral Planning for Special Events **Credits:** 1
- HORT 415 - Wedding Flowers **Credits:** 1
- HORT 420 - Unique Floral Designs **Credits:** 1

Electives: 6 credit hours

Choose 6 credit hours from the following elective list:

- HORT 377 - Interior Plantscaping **Credits:** 3
- HM 363 - Event Management **Credits:** 3
- HM 370 - The Business of Wedding Consulting **Credits:** 3

Total Hours Required: 15

Horticulture Minor

Program requirements

A minor in horticulture will provide the student with a breadth of knowledge in horticulture.

- HORT 201 - Principles of Horticultural Science **Credits:** 4
- HORT 350 - Plant Propagation **Credits:** 3

Horticulture Electives (9 credit hours)

Choose any combination of Horticulture courses to reach 9 credit hours of electives.

Total credit hours for Minor: (16)

Park Management and Conservation Minor

The Park Management and Conservation Minor focuses on natural resource management. This involves developing advanced understanding of effective management practices and exploring associated social and economic dimensions. Primary application involves career pathways within national, state, and local agencies including the National Park Service, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, USDA Forest Service, state park departments, and local park and recreation departments. Other popular career trajectories include outfitters, retailers, and associations.

Required Courses: 6 credit hours

- PMC 210 - Intro to Outdoor Recreation **Credits:** 3
- PMC 275 - Introduction to Natural Resource Management **Credits:** 3

PMC Elective: 3-4 credit hours

1 course in PMC

Electives: 5-6 credit hours

Choose elective hours from course list

- GEOG 302 - Cartography and Thematic Mapping **Credits:** 3
- GEOL 315 - Geology of the National Parks **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- PMC 110 - Environmental Education and Leadership **Credits:** 1
- PMC 441 - Topics in Park Management and Conservation **Credits:** 0-18
- PMC 475 - Natural History for Park Professionals **Credits:** 3
- PMC 489 - Outdoor Recreation Program and Event Development **Credits:** 3
- PMC 495 - Undergraduate Research in Park Management and Conservation **Credits:** 0-3
- PMC 580 - Park Operations and Maintenance Management **Credits:** 4
- PMC 620 - Park Planning and Design **Credits:** 3
- PMC 635 - Methods of Environmental Interpretation **Credits:** 3
- PMC 690 - Parks and Recreation Administration **Credits:** 4
- WOEM 350 - Fauna and Flora of the Great Plains **Credits:** 3
- WOEM 400 - Pond and Sportfish Management **Credits:** 3
- WOEM 561 - Waterfowl and Wetlands Management **Credits:** 3
- PMC 410 - Natural Resource Based Tourism **Credits:** 3

Total Hours Required: 15

Other Program Choices

Horticulture - Golf Course and Sports Turf Operations Management (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
English Requirement	3	**KSC 010**	
Communications Requirement	3	**KSC 020**	
Natural and Physical Sciences Requirement (recommended Biol 198)	4	**KSC 040**	
HORT 201 - Principles of Horticultural Science	4		
HNR 101 - Introduction to Horticulture and Natural Resources	1		
Total Credits: 15			
Semester 2			
English Requirement	3	**KSC 010**	
CHM 110 - General Chemistry	3		
CHM 111 - General Chemistry Laboratory	1		
HORT 350 - Plant Propagation	3		
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 16			
Second Year			
Semester 1			
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
AGRON 205 - Soils	3		
AGRON 206 - Soils Laboratory	1		
HORT 550 - Horticultural Irrigation Systems	3		

BIOL 198 - Principles of Biology **OR**	4		
Unrestricted Elective (if Biol 198 taken in semester 1)	4		
Total Credits: 17			
Semester 2			
HORT 515 - Basic Turfgrass Culture	3		
Arts and Humanities Requirement	3	**KSC 060**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
AGEC 120 - Agricultural Economics and Agribusiness **OR**	3		
ECON 110 - Principles of Macroeconomics **OR**	3		
ECON 120 - Principles of Microeconomics	3		
Social and Behavioral Science Requirement	3	**KSC 050**	
Total Credits: 15			
Third Year			
Semester 1			
ACCTG 231 - Introduction to Managerial Accounting	3		
HORT 274 - Landscape Plants I	3		
HORT 490 - Horticulture Internship	1-18		
HORT 587 - Turfgrass Diseases and Their Management	1		
HORT 588 - Turfgrass Weeds and Their Management	1		
HORT 589 - Turfgrass Insects and Their Management	1		
Communications Elective (See Departmental List)	3		
Total Credits: 15			

Semester 2			
ACCTG 241 - Introduction to Financial Accounting	3		
HORT 508 - Business of Sustainable Landscape Management	2		
HORT Golf Course and Sports Turf Option Elective (See Departmental List)	3		
PLPTH 500 - Principles of Plant Pathology	3		
ENTOM 312 - General Entomology	3		
Total Credits: 14			
Fourth Year			
Semester 1			
MANGT 220 - Principles of Management	3		
HORT 570 - Greenhouse Operations Management	3		
HORT 490 - Horticulture Internship	3-6		
Hospitality Management Elective (See Departmental List)	3		
Business Elective (See Departmental List)	3		
Total Credits: 15			
Semester 2			
MKTG 250 - Introduction to Marketing	3		
Hospitality Management Elective (See Departmental List)	3		
HORT 706 - Advanced Culture of Golf and Sports Turf	3		
HORT 585 - Arboriculture	3		
HORT 282 - Foundations of Horticultural Pest Management	1		
Total Credits: 13			

Total Program Hours: 120			

Horticulture - Horticulture Production (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
English Requirement	3	**KSC 010**	
Communications Requirement	3	**KSC 020**	
HORT 201 - Principles of Horticultural Science	4		
HNR 101 - Introduction to Horticulture and Natural Resources	1		
Natural and Physical Science Requirement	4	**KSC 040**	
Total Credits: 15			
Semester 2			
English Requirement	3	**KSC 010**	
HORT 350 - Plant Propagation	3		
AGEC 120 - Agricultural Economics and Agribusiness **OR**	3		
ECON 110 - Principles of Macroeconomics **OR**	3		
ECON 120 - Principles of Microeconomics	3		
Arts and Humanities Requirement	3	**KSC 060**	
CHM 110 - General Chemistry	3		
CHM 111 - General Chemistry Laboratory	1		
Total Credits: 16			
Second Year			
Semester 1			

MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
HORT 274 - Landscape Plants I	3		
AGRON 205 - Soils	3		
AGRON 206 - Soils Laboratory	1		
BIOL 198 - Principles of Biology **OR**	4		
Unrestricted Elective (if Biol 198 taken in semester 1)	4		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 17			
Semester 2			
Arts and Humanities Requirement	3	**KSC 060**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
HORT 520 - Fruit Production **OR**	3		
HORT 560 - Vegetable Crop Production	3		
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 15			
Third Year			
Semester 1			
HORT 550 - Horticultural Irrigation Systems	3		
BIOL 500 - Plant Physiology	3		
Communications Elective (See Departmental List)	3		
Business Elective (See Departmental List)	3		
ENTOM 312 - General Entomology	3		

Total Credits: 15			
Semester 2			
PLPTH 500 - Principles of Plant Pathology	3		
ACCTG 231 - Introduction to Managerial Accounting	3		
HORT 375 - Landscape Plants II	3		
Horticulture Production Option Elective (See Departmental List)	3		
Horticulture Production Option Elective (See Departmental List)	3		
Total Credits: 15			
Fourth Year			
Semester 1			
HORT 490 - Horticulture Internship	3-6		
HORT 570 - Greenhouse Operations Management	3		
Business Elective (See Departmental List)	3		
Horticulture Production Option Elective (See Departmental List)	3		
Horticulture Production Option Elective (See Departmental List)	3		
Total Credits: 15			
Semester 2			
HORT 600 - Herbaceous Plant Production	3		
PLPTH 590 - Landscape Diseases	2		
HORT 282 - Foundations of Horticultural Pest Management	1		
Horticulture Production Option Elective (See Departmental List)	3		
Horticulture Production Option Elective (See Departmental List)	3		

Total Credits: 12			
Total Program Hours: 120			

Horticulture - Landscape Horticulture (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
English Requirement	3	**KSC 010**	
Communications Requirement	3	**KSC 020**	
HORT 201 - Principles of Horticultural Science	4		
HNR 101 - Introduction to Horticulture and Natural Resources	1		
Natural & Physical Sciences Requirement (recommended Biol 198)	4	**KSC 040**	
Total Credits: 15			
Semester 2			
English Requirement	3	**KSC 010**	
CHM 110 - General Chemistry	3		
CHM 111 - General Chemistry Laboratory	1		
HORT 275 - Horticultural Design I	3		
HORT 350 - Plant Propagation	3		
AGEC 120 - Agricultural Economics and Agribusiness **OR**	3		
ECON 110 - Principles of Macroeconomics **OR**	3		
ECON 120 - Principles of Microeconomics	3		
Total Credits: 16			

Second Year			
Semester 1			
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Social and Behavioral Science Requirement	3	**KSC 050**	
HORT 274 - Landscape Plants I	3		
Arts and Humanities Requirement	3	**KSC 060**	
BIOL 198 - Principles of Biology **OR**	4		
Unrestricted Elective (if Biol 198 taken in semester 1)	4		
Total Credits: 16			
Semester 2			
Arts and Humanities Requirement	3	**KSC 060**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Social and Behavioral Science Requirement	3	**KSC 050**	
HORT 508 - Business of Sustainable Landscape Management	2		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 14			
Third Year			
Semester 1			
HORT 550 - Horticultural Irrigation Systems	3		
BIOL 500 - Plant Physiology	3		
HORT 551 - Landscape Contracting and Construction	2		
HORT Landscape Option Elective #1 (See Departmental List)	3		
ENTOM 312 - General Entomology	3		

Total Credits: 14			
Semester 2			
PLPTH 500 - Principles of Plant Pathology	3		
AGRON 205 - Soils	3		
AGRON 206 - Soils Laboratory	1		
HORT 510 - Horticultural Design II	3		
HORT 375 - Landscape Plants II	3		
ACCTG 231 - Introduction to Managerial Accounting	3		
Total Credits: 16			
Fourth Year			
Semester 1			
HORT 490 - Horticulture Internship	3-6		
HORT 570 - Greenhouse Operations Management	3		
Communications Elective (See Departmental List)	3		
HORT Landscape Option Elective #1	3		
Business Elective #1 (See Departmental List)	3		
Total Credits: 15			
Semester 2			
HORT Landscape Option Elective #3 (See Departmental List)	2		
HORT 282 - Foundations of Horticultural Pest Management	1		
PLPTH 590 - Landscape Diseases	2		
HORT 515 - Basic Turfgrass Culture	3		

HORT 585 - Arboriculture	3		
Business Elective #2 (See Departmental List)	3		
Total Credits: 14			
Total Program Hours: 120			

Horticulture - Science (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.			
First Year	**Hours**	**K-State Core**	
Semester 1			
English Requirement	3	**KSC 010**	
Communication Requirement	3	**KSC 020**	
HORT 201 - Principles of Horticultural Science	4		
HNR 101 - Introduction to Horticulture and Natural Resources	1		
Natural and Physical Sciences Requirement (recommended Biol 198)	4	**KSC 040**	
Total Credits: 15			
Semester 2			
English Requirement	3	**KSC 010**	
MATH 205 - General Calculus	3	**KSC 030**	
HORT 350 - Plant Propagation	3		
AGEC 120 - Agricultural Economics and Agribusiness **OR**	3		
ECON 110 - Principles of Macroeconomics **OR**	3		
ECON 120 - Principles of Microeconomics	3		
Arts and Humanities Requirement	3	**KSC 060**	

Total Credits: 15		
Second Year		
Semester 1		
CHM 210 - Chemistry I	4	
HORT 274 - Landscape Plants I	3	
Social and Behavioral Science Requirement	3	**KSC 050**
Arts and Humanities Requirement	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
CHM 230 - Chemistry II	4	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Social and Behavioral Science Requirement	3	**KSC 050**
BIOL 198 - Principles of Biology **OR**	4	
Unrestricted Elective (if Biol 198 taken in semester 1)	4	
Total Credits: 14		
Third Year		
Semester 1		
CHM 350 - General Organic Chemistry	3	
HORT 550 - Horticultural Irrigation Systems	3	
PHYS 113 - General Physics I	4	
Writing Elective (See Departmental List)	3	

AGRON 205 - Soils	3		
AGRON 206 - Soils Laboratory	1		
Total Credits: 17			
Semester 2			
PLPTH 500 - Principles of Plant Pathology	3		
ACCTG 231 - Introduction to Managerial Accounting	3		
ASI 500 - Genetics **OR**	3		
BIOL 398 - Principles of Genetics	4		
ENTOM 312 - General Entomology	3		
HORT Science Option Elective #1 (See Departmental List)	3		
Total Credits: 15-16			
Fourth Year			
Semester 1			
HORT 570 - Greenhouse Operations Management	3		
HORT 490 - Horticulture Internship	3-6		
BIOL 500 - Plant Physiology	3		
BIOL 501 - Plant Physiology Lab	1		
HORT Science Option Elective #2 (See Departmental List)	3		
Plant Science Elective #1 (See Departmental List)	3		
Total Credits: 16			
Semester 2			
HORT 710 - Plant Cell, Tissue and Organ Culture	3		

HORT 282 - Foundations of Horticultural Pest Management	1		
PLPTH 590 - Landscape Diseases	2		
HORT Science Option Elective #3 (See Departmental List)	3		
Plant Science Elective #2 (See Departmental List)	3		
Total Credits: 12			
Total Program Hours: 120			

Park Management and Conservation (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
English Requirement	3	**KSC 010**	
Communication Requirement	3	**KSC 020**	
GEOL 100 - Earth in Action **OR**	3		
GEOG 121 - Introductory Physical Geography: Earth Systems Science	3		
PMC 275 - Introduction to Natural Resource Management	3		
PMC 110 - Environmental Education and Leadership	1		
HNR 101 - Introduction to Horticulture and Natural Resources	1		
Total Credits: 14			
Semester 2			
English Requirement	3	**KSC 010**	
BIOL 198 - Principles of Biology	4		
Social & Behavioral Science Requirement	3	**KSC 050**	
PMC 489 - Outdoor Recreation Program and Event Development	3		

Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 16			
Second Year			
Semester 1			
PMC 210 - Intro to Outdoor Recreation	3		
CHM 110 - General Chemistry	3		
CHM 111 - General Chemistry Laboratory	1		
Arts & Humanities Requirement	3	**KSC 060**	
Free Electives {Institutionally Designated}	3	**KSC 070**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 16			
Semester 2			
PMC 350 - Parks and Outdoor Recreation Practicum	1-2		
AGEC 120 - Agricultural Economics and Agribusiness **OR**	3		
ECON 110 - Principles of Macroeconomics **OR**	3		
ECON 120 - Principles of Microeconomics	3		
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Natural & Physical Sciences Requirement	4	**KSC 040**	
Free Electives {Institutionally Designated}	3	**KSc 070**	
Total Credits:14			
Third Year			
Semester 1			

PMC 475 - Natural History for Park Professionals	3		
PMC 580 - Park Operations and Maintenance Management	4		
GEOG 302 - Cartography and Thematic Mapping	3		
AGRON 205 - Soils	3		
AGRON 206 - Soils Laboratory	1		
Total Credits: 14			
Semester 2			
PMC 620 - Park Planning and Design	3		
COMM 311 - Business and Professional Speaking	3		
PMC 635 - Methods of Environmental Interpretation	3		
Specialized Course #1 (See department list)	3		
Specialized Course #2 (See department list)	3		
Total Credits: 15			
Fourth Year			
Semester 1			
PMC 410 - Natural Resource Based Tourism	3		
Specialized Course #3 (See department list)	3		
Specialized Course #4 (See department list)	3		
PMC 492 - Internship in Parks and Recreation	6		
Total Credits: 15			
Semester 2			
PMC 690 - Parks and Recreation Administration	4		

Specialized Course #5 (See department list)	3		
Specialized Course #6 (See department list)	3		
Unrestricted Elective	3		
Unrestricted Elective	3		
Total Credits: 16			
Total Program Hours: 120			

Wildlife and Outdoor Enterprise Management (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
COMM 106 - Public Speaking I	3	**KSC 020**	
HNR 101 - Introduction to Horticulture and Natural Resources	1		
BIOL 198 - Principles of Biology	4		
WOEM 203 - Bowhunting Equipment and Skills	1		
PMC 275 - Introduction to Natural Resource Management	3		
Total Credits: 15			
Semester 2			
ENGL 200 - Expository Writing II	3	**KSC 010**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
WOEM 350 - Fauna and Flora of the Great Plains	3		
Natural and Physical Sciences Requirement	4	**KSC 040**	
Arts and Humanities Requirement	3	**KSC 060**	

Total Credits: 16		
Summer semester		
WOEM 201 - Firearms, Cartridges and Ballistics	1	
WOEM 202 - Rifle and Handgun Range Design, Construction and Operations	1	
Total Credits: 2		
Second Year		
Semester 1		
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Social & Behavioral Sciences Requirement	3	**KSC 050**
BIOL 221 - Organismic Biology	5	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 14		
Semester 2		
BIOL 333 - Introduction to Fisheries, Wildlife, Conservation and Environmental Biology	3	
WOEM 205 - Sporting Clays Range Development and Operations	1	
WOEM 206 - Trap and Skeet Range Development and Operations	1	
Arts and Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
CHM 110 - General Chemistry	3	
CHM 111 - General Chemistry Laboratory	1	
Total Credits: 15		

Third Year		
Semester 1		
AGRON 205 - Soils	3	
AGRON 206 - Soils Laboratory	1	
WOEM 400 - Pond and Sportfish Management	3	
Hospitality Management Elective - See Dept list	3	
ENTRP/Business Elective	3	
Total Credits: 13		
Semester 2		
WOEM 555 - Big Game Management	3	
WOEM 561 - Waterfowl and Wetlands Management	3	
ASI 635 - Gamebird Production and Management	3	
WOEM 560 - Upland Game Bird Management	3	
ENTRP/Business Elective	3	
Total Credits: 15		
Fourth Year		
Semester 1		
WOEM 562 - Advanced Wildlife Habitat Management	4	
AGRON 251 - Range Management	3	
ENTRP/Business Elective	3	
WOEM 570 - Internship for Wildlife and Outdoor Enterprise Management	6-10	
Total Credits: 16		

Semester 2			
WOEM 595 - Wildlife and Outdoor Enterprise Management Senior Seminar	1		
WOEM 620 - Human-Wildlife Conflicts	3		
ENTRP/Business Elective	3		
ENTRP/Business Elective	3		
Unrestricted Elective	3		
Unrestricted Elective	1		
Total Credits:	14		
Total Program Hours: 120			

Plant Pathology

Megan Kennelly, Head

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4024 Throckmorton Hall
785-532-6176
Fax: 785-532-5692
E-mail: plantpath@k-state.edu
www.plantpath.k-state.edu

Plant pathology is the study of plant diseases and their causes, effects, nature, and control. Opportunities for graduates in plant pathology include basic and applied research, development, and teaching.

Minor

Plant Pathology Minor

Plant pathology is the study of plant diseases, their causes, effects, and management. Keeping plants healthy requires an understanding of the organisms and agents that cause disease as well as an understanding of how plants grow and are affected by disease. The expanding interest in the quality of our global environment and increasing global demand for high quality food, fiber, tree and ornamental plants provides many opportunities for graduates with training in plant pathology.

Teaching and research faculty specialize in wheat, corn, sorghum, soybean, sunflower, rice, turf and horticultural diseases caused by bacteria, fungi, nematodes, and viruses. In addition, departmental teaching and research efforts integrate the crops and pathogen groups important to Kansas, the U.S., and the world through the study of bioinformatics, cytogenetics/germplasm improvement, disease diagnostics, disease physiology, epidemiology, microbial ecology, fungal genetics, host-parasite

interactions, modeling/statistics, molecular genetics/genomics, plant biotechnology, sustainable agriculture, and environmental science.

Careers

A plant pathologist is a professional who specializes in plant health much as a physician specializes in human health or a veterinarian in animal health. Opportunities for graduates with plant pathology minors include basic and applied research, international development, teaching, crop consulting, and extension. In addition, plant pathology expertise is useful for farm and greenhouse managers, park and golf course superintendents, agribusiness sales representatives, and other biological science positions requiring a bachelor's degree.

Academics

Training available in plant pathology at KSU includes the following areas:

- Diseases of Kansas crops (wheat, corn, sorghum, soybean, sunflower, turf, and horticultural plants)
- Ecology and evolution
- Genetics/biotechnology/genomics/bioinformatics
- Host-plant resistance
- Molecular biology of host-pathogen interactions
- Pathogen biology

Program requirements

Students interested in the study of plant diseases should consider the plant pathology minor. Please get in touch with plant pathology minor coordinator to discuss the course plan and completer the enrollment paperwork. Contact information of the coordinator can be found on department of plant pathology website.

Required courses (5 credit hours):

- PLPTH 500 - Principles of Plant Pathology **Credits:** 3
- PLPTH 585 - Crop Diseases **Credits:** 2
  or
- PLPTH 590 - Landscape Diseases **Credits:** 2

Plus at least two additional hours in plant pathology, such as:

- PLPTH 495 - Undergraduate Research in Plant Pathology **Credits:** 0-3
- PLPTH 587 - Turfgrass Diseases and Their Management **Credits:** 1
  or
- HORT 587 - Turfgrass Diseases and Their Management **Credits:** 1
- PLPTH 610 - Biotechnology **Credits:** 3
  or
- AGRON 610 - Biotechnology **Credits:** 3
- PLPTH 732 - Introduction to Plant Resistance to Pests **Credits:** 2
- PLPTH 755 - Plant Resistance to Diseases **Credits:** 2
- PLPTH 765 - Integrated Plant Disease Management **Credits:** 2

At least 8 additional credit hours from the following:

- Any other course in Plant Pathology
- AGRON 330 - Weed Science **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AGRON 646 - Soil Microbiology Laboratory **Credits:** 1
- BIOL 255 - General Microbiology **Credits:** 4
- BIOL 500 - Plant Physiology **Credits:** 3
- BIOL 501 - Plant Physiology Lab **Credits:** 1
- BIOL 580 - Molecular Biology of Genes and Genomes **Credits:** 3
- BIOL 604 - Biology of the Fungi **Credits:** 3
- BIOL 675 - Genetics of Microorganisms **Credits:** 3
- BIOL 676 - Molecular Genetics Laboratory **Credits:** 3
- BIOL 687 - Microbial Ecology **Credits:** 3
- BIOL 705 - Eukaryotic Genetics **Credits:** 3
- BIOL 734 - Introduction to Genomics and Bioinformatics **Credits:** 4
- ENTOM 250 - Economic Entomology **Credits:** 3
  or
- ENTOM 312 - General Entomology **Credits:** 3
- ENTOM 350 - Crops, Insects, and Agroecosystems **Credits:** 3
- ENTOM 200 - Insect Sampling and Surveillance **Credits:** 2
- ENTOM 205 - Introduction to Insect Data Analysis **Credits:** 1
- ENTOM 210 - Introduction to Insecticides **Credits:** 1
- ENTOM 612 - Insect Pest Diagnosis **Credits:** 2
- ENTOM 620 - Pesticides, People, and the Environment **Credits:** 2
- ENTOM 621 - Introduction to Biological Control **Credits:** 3
- HORT 282 - Foundations of Horticultural Pest Management **Credits:** 1
- HORT 588 - Turfgrass Weeds and Their Management **Credits:** 1
- HORT 589 - Turfgrass Insects and Their Management **Credits:** 1

Total credit hours: (15)

College of Architecture, Planning and Design

Michael McClure, Dean
Katie Kingery-Page, Associate Dean
Karina Taufi, Director of Student Recruitment
Katrina Lewis, Director of International Programs and Director of Environmental Design Studies
Mitzi Farmer, Director of Academic Services and Academic Advisor

1127 Regnier Hall
785-532-5047
Fax: 785-532-6722
E-mail: myapd@k-state.edu
www.apdesign.k-state.edu

The College of Architecture, Planning and Design offers accredited professional degree programs in architecture, interior architecture, industrial design, landscape architecture, and regional and community planning. The College also offers a Bachelor of Science in Real Estate and Community Development.

The college consists of three academic departments: architecture, interior architecture and industrial design, and landscape architecture and regional and community planning.

The curriculum in architecture is accredited by the National Architectural Accrediting Board (NAAB). The interior architecture curriculum is accredited by Council for Interior Design Accreditation (CIDA). The interior architecture and industrial design curricula are approved by National Association of Schools of Art and Design (NASAD). The landscape architecture curriculum is accredited by the Landscape Architectural Accreditation Board (LAAB). The planning curriculum is accredited by the American Institute of Certified Planners (AICP) in cooperation with the Association of Collegiate Schools of Planning (ACSP).

Accredited, five-year graduate degrees are offered in Architecture, Interior Architecture, Industrial Design, Landscape Architecture, and Regional and Community Planning to students who have not completed a bachelor's degree (high school or transfer students).

Accredited graduate degrees in Architecture, Interior Architecture, Landscape Architecture, and Regional and Community Planning are also available to students who already hold an undergraduate degree in different fields.

The Master of Science in Architecture degree is intended for students who already hold an accredited Bachelor of Architecture degree.

The Master of Science in Community Development is an on-line degree offered to students who already hold an undergraduate degree.

A PhD in Environmental Design and Planning is also offered, with the primary objective of supporting graduate research which employs an interdisciplinary view of design and planning.

Click on any of the following links for information:

- Application Process
- High School Applicants
- Transfer applicants
- Accelerated Pathway for Transfer Students
- Bachelors (or higher) Degree Holding Students
- Academic Advising
- General Education: K-State 8
- University Honors Program
- Student academic creations
- Education Abroad
- Internship
- Kansas City Design Center (KCDC)
- Extracurricular activities

Admission Policies and Procedures

Application Process

High school applicants

In addition to meeting the university's admission requirements, selective admission to the College of Architecture, Planning and Design five-year master's degrees are based upon the review of high school cumulative GPA. We highly encourage students to submit ACT or SAT scores to maximize scholarship opportunities. Students who do not submit test scores should contact the admissions office for further information on how to apply for scholarships. The number of students who can enter the first-year program for the accredited, 5-year master's degrees is limited and admission is competitive. The college does not admit freshman or transfer students for the spring semester. Application does not guarantee admission.

To be considered for admission, all application materials must be sent to the Office of Admissions no later than February 1. Late applicants are considered only if space is available.

Applicants to the 4-year, Bachelors of Science in Real Estate and Community Development should meet K-State's qualified admissions. Other applicants may apply and will be considered holistically. Application does not guarantee admission.

Application materials and deadline

Materials

1. Application for undergraduate admission with the College of Architecture, Planning and Design clearly marked as your intended major.
2. University application fee.
3. Provide your self-reported GPA and ACT or SAT score (if submitting) on the university application.
4. Students will be required to submit an official or unofficial transcript for review of their application by the College of Architecture, Planning and Design.
5. Students will need to provide official transcripts and test scores after completion of their high school academic year.

Deadline: February 1

Applicants who apply before the deadline and have a 3.50 GPA and above will be offered early admission to the College of Architecture, Planning and Design. Others should still apply; eligible applicants will be considered through February 1.

(Late applications are considered if space is available.)

College preparatory curriculum

Students are advised to take a full academic course load each year of high school to meet requirements for the recommended college preparatory curriculum. Students are encouraged to take honors and advanced placement courses if they are available. Advanced Placement courses in calculus, physics, and English are helpful. Courses that develop creative abilities should be taken if time permits. The faculty strongly recommends taking a course in freehand drawing. If a choice must be made between technical drawing, computer aided drafting, or freehand drawing, the faculty prefers freehand drawing.

The following high school curriculum is highly recommended but not required for admission:

Course	Units
Mathematics (Algebra I, geometry, Algebra II, and trigonometry (pre-calculus or calculus is also recommended, but not required)	3–4
English (emphasis on critical thinking, reading, and writing)	4
Science (including Physics)	3–4
Social studies	3–4

Foreign language	2–4

Transfer applicants

A student's academic achievement in college-level course work is an important indicator of future academic performance. Students should have a college grade point average of at least a 3.0 to be considered for admission. However, being considered does not guarantee admission. Please note that all admission decisions are contingent upon maintaining or exceeding the standards. Placement of transfer students will be determined on a case by case basis.

Students should contact the College of Architecture, Planning and Design's Office of Student and Academic Services at 785-532-5047 for advice about the transfer process. It is advised to establish contact with the College before enrolling in university courses.

Second-, third-, fourth-, or fifth-year placement
Students who have attended another National Architectural Accrediting Board (NAAB), Landscape Architectural Accreditation Board (LAAB), or Council for Interior Design Accreditation (CIDA) accredited program may apply to be considered for placement in the second-, third-, fourth-, or fifth-, year of one of our degree programs. Prospective transfer students should follow the procedures described in this document and submit a personal statement describing the reason for considering transfer to APDesign, course descriptions for all the professional program courses and a digital portfolio of work completed in design studios. Studio placement will be determined by means of individual portfolio review by the faculty. Portfolios must be sent to myapd@k-state.edu no later than February 1.

Accelerated Pathway for Transfer Students

Students who did not attend an accredited program and who are interested in pursuing a degree in architecture, interior architecture, industrial design, or landscape architecture may seek admission to an intense 10-week summer design studio. Upon successful completion, students will enter the second year of the five-year degree program. Specific prerequisites must be completed to qualify for admission to this summer studio. You can learn more about the studio and the prerequisites at: https://apdesign.k-state.edu/academics/admissions/.

Students who have attended an accredited planning program as well as students who did not attend an accredited program may be considered for placement in the second-, third-, fourth-, or fifth-, year of the regional and community planning program. Prospective transfer students who are seeking admission to regional and community planning should follow the procedures described in this document and contact the Director of Student Recruitment for further information.

Application materials and deadline

Materials

1. Application for undergraduate admission with College of Architecture, Planning and Design clearly marked as your intended major.
2. University application fee.
3. Official college transcript(s) for all schools, including the most recent courses and grades.

Send application materials directly to:

Office of Admissions
Kansas State University
119 Anderson Hall
Manhattan, KS 66506–0102

Deadline: February 1
To ensure consideration, application materials must be postmarked by February 1

(Late applicants are considered if space is available.)

For more information about the College of Architecture, Planning and Design programs, write or call:

Karina Taufi, Director of Student Recruitment
College of Architecture, Planning and Design
Kansas State University
1127 Regnier Hall
Manhattan, KS 66506–2902
785-532-5047
Fax: 785-532-6722
E-mail: myapd@k-state.edu
www.apdesign@k-state.edu

For more information about admission to Kansas State University, contact:

Office of Undergraduate Admissions
Kansas State University
119 Anderson Hall
Manhattan, KS 66506–0102
E-mail: k-state@k-state.edu
1-800-432-8270 (toll free)
or 785-532-6250

Degree Holding Students Pursuing Accredited or Advanced Degrees

Please go to the following link to learn more about the admission procedures and the on-line application: http://www.k-state.edu/grad/admissions/application-process/.

Academic Advising

Please go to the following link to learn more about academic advising: http://apdesign.k-state.edu/current-students/advising.html

University Honors Program

Please click on the following link to learn more about the University Honors Program .

General Education: K-State 8

Please click on the following link to learn more about General Education: K-State Core - table .

Student academic creations

All programs involve extensive project work. Students are advised to budget sufficient funds to cover the cost of equipment, materials, and supplies. Material costs will be higher than those published for non-studio curricula.

Student academic creations are subject to Kansas State University and Board of Regents intellectual property policies. The Regents policy states:

The ownership of student works submitted in fulfillment of academic requirements shall be with the creator(s). The student, by enrolling in the institution, gives the institution a non-exclusive royalty-free license to mark on, modify, retain the work as may be required by the process of instruction, or otherwise handle the work as set out in the institution's intellectual property policy or in the course syllabus. The institution shall not have the right to use work in any other manner without the written consent of the creator(s). Otherwise handle, as referenced in this policy, includes display of student work in various media and use for accreditation purposes.

K-State's intellectual property policy.

Education Abroad

Students have opportunities to earn academic credit by studying abroad. APDesign collaborates with programs in in Italy, Australia, Austria, Denmark, England, Germany, the Czech Republic and Spain. Specific information is available from the Director of International Programs. Requirements vary among the departments.

Internship

Internships opportunities at design and planning firms allow students to spend a semester and/or a summer working with private practitioners, corporations or government agencies. Students earn academic credit and a salary while on internship. Specific requirements vary among the departments.

Kansas City Design Center (KCDC)

The opportunity to study in the heart of downtown Kansas City, at a nationally recognized non-profit partnership among local civic leaders, professional designers and planners and students who are actively seeking urban design and planning solutions for this major metropolitan area. http://www.kcdesigncenter.org/

Extracurricular activities

The college offers opportunities for students to become involved in such activities as student government, student chapters of professional societies, college ambassadors, peer educators, Open House, and the student journal, *OZ*.

Master of Science

Environmental Design Studies (MS)

The curriculum for the first year forms the foundation of the accredited professional programs in architecture, interior architecture and product design, landscape architecture, and regional and community planning.

Environmental Design Studies - First semester (17 credit hours)

- K-State 8 General Education elective **Credits:** 3
- COMM 105 - Public Speaking IA **Credits:** 2

- ENVD 201 - Environmental Design Studio I **Credits:** 4
- ENVD 203 - Survey of the Design, Planning and Community Development Professions **Credits:** 1
- ENVD 204 - Studio Seminar **Credits:** 1
- ENVD 250 - History of the Designed Environment I **Credits:** 3
- MATH 100 - College Algebra **Credits:** 3

Environmental Design Studies - Second semester (15 credit hours)

- ENGL 100 - Expository Writing I **Credits:** 3
- ENVD 202 - Environmental Design Studio II **Credits:** 4
- ENVD 251 - History of the Designed Environment II **Credits:** 3
- PHYS 115 - Descriptive Physics **Credits:** 5

Total hours required: 32

Notes

High school mathematics prerequisites: Entering freshmen or transfer students must have fulfilled the minimum high school prerequisites: algebra I (one unit): plane geometry (one unit); algebra II (one unit); and trigonometry (one-half unit) before entering the College of Architecture, Planning and Design. The prerequisites may be fulfilled at Kansas State University, or elsewhere, with the exception of geometry, which is not taught at K-State. Completing these courses at K-State will extend the time required to complete the degree program.

After satisfactory completion of the Environmental Design Studies Program, students are eligible to apply for admission to the programs of Architecture, Interior Architecture and Product Design, Landscape Architecture or Regional and Community Planning.

Due to accreditation standards and limited resources, each professional program has limited studio space available. Therefore, positions in second year are awarded on a competitive basis.

Architecture

Matthew Knox, Head

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E-mail: architecture@ksu.edu
www.arch.k-state.edu/arch

The nationally-ranked Department of Architecture, situated within the interdisciplinary College of Architecture, Planning and Design offers two degree options: an accredited professional Master of Architecture and a post-professional Master of Science in Architecture.

Master of Architecture (M.ARCH)

The NAAB-accredited Master of Architecture is based firmly upon the complementary foundations of general and architectural education. We emphasize mastery of the knowledge, skills and understandings essential to the artful creation of buildings, spaces and places. The faculty seeks to assure that our students receive extensive exposure to social, political, economic and technological perspectives that will aid them in functioning as effective leaders in a rapidly changing global context.

In emphasizing the architect's role as a designer of environments that responsibly address individual and societal needs, the professional Master of Architecture curriculum includes a sequence of design studios providing holistic examination of environmental design issues. Courses in history, theory, human behavior, construction, structural and environmental systems, planning, programming, and professional practice compliment students' work in the carefully orchestrated series of design studios.

The M.ARCH degree has two entry points. Undergraduate students should apply for the five-year plus Non-Baccalaureate Master of Architecture. Students who currently have a Bachelor's Degree, regardless of field of study, should apply for the Post-Baccalaureate Master of Architecture program or to the Master of Science in Architecture program. See Department of Architecture page in the Graduate Catalog.

Special Activities and Programs
Short, carefully structured visits to cities in Kansas and nearby states during the first year of study introduce students to techniques of urban and architectural analysis and extend the range of their experience. Longer trips are taken in subsequent years. Second year students typically travel to Dallas; third year students travel to major cities such as New York, Boston, Chicago, San Francisco, and Seattle. Led by faculty, students visit leading architectural firms, contemporary and historical buildings of importance, and examine critical urban design features. Design studio projects are often located in the city visited, so the trips are also site visits, which provide opportunities for detailed urban analysis.

Fourth-year students have access to extended elective field study opportunities, including the semester-long Architectural Internship program and study abroad programs in Italy, the Czech Republic, Denmark, Germany or other countries. Architectural internship and study abroad students return with renewed purpose and fresh insights to share with fellow students and faculty during their final year in the Master of Architecture program.

Fifth year students have the option of international travel based on the focus of their studio projects. The College also offers a year-long fifth year urban design studio at the Kansas City Design Center in Kansas City, Missouri.

Accreditation and Professional Practice
The completion of the Master of Architecture degree and then a professional experience qualify our graduates to sit for the Architectural Registration Examination administered by each American state and territory to candidates who wish to become licensed as architects.

In the United States, most registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an eight-year, three-year, or two-year term of accreditation, depending on the extent of its conformance with established educational standards.

Doctor of Architecture and Master of Architecture degree programs may require a preprofessional undergraduate degree in architecture for admission. However, the preprofessional degree is not, by itself, recognized as an accredited degree.

Kansas State University, College of Architecture Planning and Design, Department of Architecture offers the following NAAB-accredited degree programs:
M.ARCH (139 undergraduate credits + 31 graduate credits)

M. ARCH. (non-pre-professional degree + 72 undergraduate credits + 31 graduate credits)
Next accreditation visit for all programs: 2025
From the 2016 NAAB Conditions for Professional Degree programs in Architecture.

Resources

College of Architecture, Planning and Design resources include the Paul Weigel Library, a professionally staffed branch of the university's main facility. It includes over 44,000 bound volumes and approximately 200 periodical subscriptions as well as audio-visual resources. K-State's Library has subscriptions to a broad range of scholarly databases, including architecture and design-oriented scholarship. Among other facilities supporting instruction and research in the College are a computer laboratory, a photography studio, and an artificial sky. The College has an extensive shop for woodworking, metalwork, and other materials. The shop can accommodate everything, from small-scale model building activities to full-scale prototyping. The shop includes CAD/CAM equipment such as a large-bed CNC machine and laser cutters. Faculty from the College's other departments, including planning, landscape, interiors, and industrial design, often offer expert criticism for student projects and help foster a holistic approach to the designed environment. Students in the college enjoy a diverse range of lectures, seminars, exhibits, and guest critics throughout the academic year.

Master of Architecture

Architecture (MARCH) (Non-Baccalaureate track)

First semester (17 credit hours)

- COMM 106 - Public Speaking I **Credits:** 3
- ENVD 201 - Environmental Design Studio I **Credits:** 4
- ENVD 203 - Survey of the Design, Planning and Community Development Professions **Credits:** 1
- ENVD 204 - Studio Seminar **Credits:** 1
- ENVD 250 - History of the Designed Environment I **Credits:** 3
- MATH 100 - College Algebra **Credits:** 3
- *General Studies Elective **Credits:** 2

Second semester (15 credit hours)

- ENGL 100 - Expository Writing I **Credits:** 3
- ENVD 202 - Environmental Design Studio II **Credits:** 4
- ENVD 251 - History of the Designed Environment II **Credits:** 3
- PHYS 115 - Descriptive Physics **Credits:** 5

Third semester (18 credit hours)

- ARCH 248 - Fundamentals of Architectural Technology **Credits:** 3
- ARCH 274 - Digital Architecture I **Credits:** 1
- ARCH 302 - Architectural Design Studio I **Credits:** 5
- ARCH 325 - Introduction to Architectural Theory **Credits:** 3
- ENGL 213 - Writing Arguments for Architecture Students **Credits:** 3
- *General Studies Elective **Credits:** 3

Fourth semester (16 credit hours)

- ARCH 304 - Architectural Design Studio II **Credits:** 5

- ARCH 347 - Structural Systems in Architecture I **Credits:** 4
- ARCH 252 - History of Contemporary Architecture **Credits:** 3
- ARCH 373 - Digital Architecture II **Credits:** 1
- ARCH 433 - Building Construction Systems in Architecture I **Credits:** 3

Supplemental Study (6 credit hours)

- *General Studies Electives **Credits:** 6

Fifth semester (17 credit hours)

- ARCH 374 - Digital Architecture III **Credits:** 1
- ARCH 403 - Architectural Design Studio III **Credits:** 5
- ARCH 413 - Environmental Systems in Architecture I **Credits:** 4
- ARCH 448 - Structural Systems in Architecture II **Credits:** 4
- *General Studies Elective **Credits:** 3

Sixth semester (17 credit hours)

- ARCH 404 - Architectural Design Studio IV **Credits:** 5
- ARCH 434 - Building Construction Systems in Architecture II **Credits:** 3
- ARCH 514 - Environmental Systems in Architecture II **Credits:** 3
- LAR 500 - Site Planning and Design **Credits:** 3
- *General Studies Electives **Credits:** 3

Seventh semester (16 credit hours)***

- ARCH 605 - Architectural Design Studio V **Credits:** 5
- **Planning Elective **Credits:** 3
- *General Studies Elective **Credits:** 5
- **Professional Support Elective **Credits:** 3

Eighth semester (14 credit hours)

- ARCH 606 - Architectural Design Studio VI **Credits:** 5
- **Professional Support Electives **Credits:** 9

Ninth semester (17 credit hours)

- ARCH 805 - Comprehensive Design Preparation **Credits:** 3
- ARCH 817 - Architectural Design Studio VII **Credits:** 5
- ARCH 853 - Professional Practice: Professional Responsibility **Credits:** 1
- ARCH 854 - Professional Practice: Office Practices **Credits:** 1
- ARCH 855 - Professional Practice: Discipline-Specific Topics **Credits:** 1

- *General Studies Elective **Credits:** 3
- Architecture Seminar **Credits:** 3

Tenth semester (17 credit hours)

- ARCH 818 - Architectural Design Studio VIII **Credits:** 5
- **Architecture Seminar **Credits:** 6
- *General Studies Elective (Undergraduate Level) **Credits:** 3
- **Professional Support Elective **Credits:** 3

Notes

A minimum of twenty-eight (28) general studies elective credits must be in non-architectural studies courses. Courses in addition to any course in communications, history, humanities, social sciences, natural sciences, foreign languages, or mathematics will fulfill this requirement. They may be taken in pursuit of a minor. They may be taken any time prior to or during the Architecture program and may include KSU approved AP, IB, CLEP and transfer credit. A maximum of 3 credits of English Language Program courses and a maximum of 3 credits in recreation courses may be used to fulfill general studies requirements. General studies electives may include KSU approved extracurricular work as allowed by university regulations.

** The M.Arch degree requires twenty-seven (27) hours of professional support (PSE) electives, twelve (12) for undergraduate credit and fifteen (15) for graduate credit. Of the undergraduate credits, at least three (3) hours must be planning elective credits; the other nine (9) are usually fulfilled in the 8th semester as part of the 4th year study options. At least nine (9) hours of the graduate level PSE must be architecture seminars. See the M. Arch Handbook for further details. Students may not count more than three (3) total hours of department approved extracurricular PSE credits (such as Oz, NOMAS, Plot Club etc.) toward graduation. PSE credits correspond to optional studies as listed in the 2014 NAAB Conditions for Accreditation.

*** Students are encouraged to participate in off-campus study in the 4th year of the program. Alternative study options for ARCH 606 include study abroad or attending the Kansas City Design Center. An optional academic internship program is also available. Students interested in participating in one or more of these options should meet with their academic advisor.

Undergraduate Hours: 139

Graduate Hours: 31

Total Degree Requirement: 170

Interior Architecture and Industrial Design

Nathan Howe, Department Head

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apdesign.k-state.edu/iaid/

The Interior Architecture & Industrial Design department offers two master's degrees, one that focuses on Interior Architecture, or MIARC, and another on Industrial Design, or MINDD. These degrees engage our students to (re)envision building interiors and the consumer products of the future. Our students are instructed in the essential process of inquiry, design and the making of

space and form. With innovative curriculums, our degrees prepare our students to become professional leaders in their industry to shape places we live and work and the products we use every day.

Bachelor of Science

Interior Design (BS)

The Bachelor of Science in Interior Design is accredited by the Council for Interior Design Accreditation https://www.accredit-id.org/.

Graduates of the interior design program are prepared to work in interdisciplinary teams with architects, engineers, contractors, and other building industry professionals to meet the needs of clients and users.

Admission to the interior design program is selective and competitive. High school graduates and transfer students who have completed applications submitted to the K-State Office of Admissions www.k-state.edu/admissions/apply are considered for acceptance to the program for the next fall semester. Current K-State students wanting to change major to Interior Design should contact the College of Architecture, Planning, and Design Office of Student Services at capdss@ksu.edu or 785-532-5047.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: 86 credit hours

* If any of the following courses are applied towards University Core Requirements, please consult your advisor on additional courses to meet the 120 hours.

Professional Studies: 72 credit hours

Grades of 'C' or higher required for Professional Courses.

- IDSN 210 - Design and Behavior in the Interior Environment **Credits:** 3
- IDSN 225 - Interior Design Studio 1 **Credits:** 4
- IDSN 245 - Interior Design Studio 2 **Credits:** 4
- IDSN 300 - Global Experiences in Interior Design **Credits:** 0-6
- IDSN 310 - Construction Methods and Materials for Interior Design **Credits:** 4
- IDSN 315 - Digital Visualization I **Credits:** 2

- IDSN 320 - History of Interior Design I **Credits:** 3
- IDSN 325 - Interior Design Studio 3 **Credits:** 4
- IDSN 330 - Textiles for Interior Design **Credits:** 3
- IDSN 345 - Interior Design Studio 4 **Credits:** 4
- IDSN 360 - History of Interior Design II **Credits:** 3
- IDSN 399 - Interior Design Practicum **Credits:** 0-2
- IDSN 415 - Digital Visualization II **Credits:** 2
- IDSN 425 - Interior Design Studio 5 **Credits:** 4
- IDSN 435 - Systems and Technology for Interior Design I **Credits:** 3
- IDSN 445 - Interior Design Studio 6 **Credits:** 4
- IDSN 530 - Interior Design Practices and Procedures **Credits:** 3
- IDSN 545 - Interior Design Studio 7 **Credits:** 4
- IDSN 599 - Interior Design Internship **Credits:** 3-4
- IDSN 600 - Interior Design Study Tour **Credits:** 1-3
- IDSN 630 - Topics in Advanced Interior Design Theory **Credits:** 3
- IDSN 645 - Interior Design Studio 8 **Credits:** 4
- IDSN 651 - Design for Supportive Environments **Credits:** 4

Major Support Courses

If not met through K-State Core requirements, MATH 160 and a PHYS course are required.

Choose PHYS 101 and PHYS 103 or either PHYS 113 or PHYS 115.

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3
  KSC-030
- PHYS 101 - The Physical World **Credits:** 3
  AND
  KSC-040
- PHYS 103 - The Physical World Laboratory **Credits:** 1
  OR
- PHYS 113 - General Physics I **Credits:** 4
  OR
- PHYS 115 - Descriptive Physics **Credits:** 5

Sustainability Studies: 3 credit hours

Choose one of the following courses.

- IDFS 350 - Our Sustainable World **Credits:** 3
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- GEOG 360 - Sustainability Concepts & Issues **Credits:** 3

Professional Electives: 14 credit hours

- GERON 215 - Introduction to Gerontology **Credits:** 3
- HDFS 250 - Interpersonal and Family Relationships **Credits:** 3
- IAID 299 - History of Furniture **Credits:** 3

- IDSN 300 - Global Experiences in Interior Design **Credits:** 0-6
- IDSN 399 - Interior Design Practicum **Credits:** 0-2
- IDSN 599 - Interior Design Internship **Credits:** 3-4
- IDSN 600 - Interior Design Study Tour **Credits:** 1-3
- IDSN 630 - Topics in Advanced Interior Design Theory **Credits:** 3
- INDD 292 - Design Thinking **Credits:** 3
- LAR 211 - Unlocking Creativity **Credits:** 3
- PLAN 215 - World Cities **Credits:** 3

Total Hours Required for Graduation: 120

Minor

Industrial Design Minor

The Industrial Design Minor is intended to equip students with the basic knowledge, skills, of the Industrial Design profession, history, and creative process. The minor enables students majoring in fields other than Industrial Design to gain the fundamental Industrial Design competencies to complement their disciplines.

Required Courses (9 credit hours)

- INDD 292 - Design Thinking **Credits:** 3
- INDD 325 - Human Factors in Industrial Design **Credits:** 3
- INDD 350 - Product Semantics **Credits:** 3

Electives (6 credit hours)

Choose TWO of the following courses:

- IAID 290 - Design and Material Culture **Credits:** 3
- IAID 299 - History of Furniture **Credits:** 3
- INDD 500 - Materials and Manufacturing Processes **Credits:** 3
- INDD 605 - Problems in INDD **Credits:** 1-18

Total hours required: 15

Other Program Choices

Interior Design (BS) Academic Degree Map

First Year	Hour	K-State Core
Semester 1		

IDSN 210 - Design and Behavior in the Interior Environment	3	
IDSN 225 - Interior Design Studio 1	4	
English Requirement	3	**KSC 010**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 13		
Semester 2		
IDSN 245 - Interior Design Studio 2	4	
IDSN 320 - History of Interior Design I	3	
Sustainability Course Choice	3	
Physics Course Choice	4	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 17		
Second Year		
Semester 1		
IDSN 310 - Construction Methods and Materials for Interior Design	4	
IDSN 315 - Digital Visualization I	2	
IDSN 325 - Interior Design Studio 3	4	
IDSN 360 - History of Interior Design II	3	
English Requirement	3	**KSC 010**
Total Credits: 16		
Semester 2		
IDSN 330 - Textiles for Interior Design	3	

IDSN 345 - Interior Design Studio 4	4	
IDSN 415 - Digital Visualization II	2	
IDSN 435 - Systems and Technology for Interior Design I	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Third Year		
Semester 1		
IDSN 425 - Interior Design Studio 5	4	
IDSN 440 - Systems and Technology for Interior Design II	3	
Professional Applications Elective	8	
Total Credits: 15		
Semester 2		
IDSN 445 - Interior Design Studio 6	4	
IDSN 530 - Interior Design Practices and Procedures	3	
Professional Applications Elective	6	
Communication Requirement	3	**KSC 020**
Total Credits: 16		
Fourth Year		
Semester 1		
IDSN 545 - Interior Design Studio 7	4	
IDSN 651 - Design for Supportive Environments	4	
Natural & Physical Sciences Requirement	4-5	**KSC 040**

Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Semester 2		
IDSN 645 - Interior Design Studio 8	4	
Arts & Humanities Requirement	3	**KSC 060**
Free elective {Institutionally Designated Area}	3	**KSC 070**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Total Credits: 13		
Total Program Hours: 120		

Master of Industrial Design

Industrial Design (Non-Baccalaureate MINDD)

The Master of Industrial Design is a five-year non-baccalaureate degree. It is designed to give students a diverse exposure in the industrial design profession. Students will focus on ergonomics, human factors, manufacturing processes, product semantics and design theory. Throughout the curriculum there will be a series of workshop courses to expose students to furniture design and fabrication skills. This degree will also have built into the curriculum field trips to major metropolitans, study abroad experiences and internship opportunities. This is a hands-on degree where students are given a balance of design theory, the hard science of manufacturing and the art of craft. This degree will also provide students with three courses toward an entrepreneurship minor. With just two more courses students can opt to receive their minor in entrepreneurship with their general electives.

Housed within the College of Architecture, Planning and Design and in the department of Interior Architecture and Product Design this degree will leverage a wide variety of expertise in designing products for the built environment. Our building in Seaton and Regnier Hall boast large well-appointed design labs. We also have a 20,000 square feet state of the art Fabrication Lab allowing our students to create products as small as a flash drive to as large as the interior cabin of a helicopter.

Our faculty care deeply about teaching students how to innovate for the future needs of the consumer, while still maintaining practices that are sustainable and responsible for our environment. Our Master of Industrial Design is a 170 credit hour degree which will give students a full spectrum of exposure to industry partnerships, study abroad and internship experiences. Our students learn to not only dream up what is next to come tomorrow but learn how to execute that dream today.

Master's Degree Requirements

Environmental Design Studies Program

First Semester (17 credit hours)

- COMM 106 - Public Speaking I **Credits:** 3
- ENVD 201 - Environmental Design Studio I **Credits:** 4
- ENVD 203 - Survey of the Design, Planning and Community Development Professions **Credits:** 1
- ENVD 204 - Studio Seminar **Credits:** 1
- ENVD 250 - History of the Designed Environment I **Credits:** 3
- MATH 100 - College Algebra **Credits:** 3
- General Elective **Credits:** 2

Second Semester (15 credit hours)

- ENGL 100 - Expository Writing I **Credits:** 3
- ENVD 202 - Environmental Design Studio II **Credits:** 4
- ENVD 251 - History of the Designed Environment II **Credits:** 3
- PHYS 115 - Descriptive Physics **Credits:** 5

Industrial Design Program

Third Semester (17 credit hours)

- IAID 290 - Design and Material Culture **Credits:** 3
- IAID 299 - History of Furniture **Credits:** 3
- IAID 430 - Visual Communication I **Credits:** 3
- INDD 307 - INDD Design Studio I **Credits:** 5
- INDD 325 - Human Factors in Industrial Design **Credits:** 3

Fourth Semester (18 credit hours)

- INDD 320 - INDD Design Studio II **Credits:** 5
- INDD 350 - Product Semantics **Credits:** 3
- INDD 500 - Materials and Manufacturing Processes **Credits:** 3
- IAID 407 - Design Workshop I **Credits:** 4
- IAID 431 - Visual Communication II **Credits:** 3

Fifth Semester (17 credit hours)

- INDD 310 - INDD Digital Applications **Credits:** 2
- INDD 435 - INDD Design Studio III **Credits:** 5
- INDD 520 - Materials and Manufacturing Processes II **Credits:** 3
- IAID 432 - Visual Communication III **Credits:** 3
- IAID 602 - Furniture Design II **Credits:** 4

Sixth Semester (17 credit hours)

- INDD 433 - User Interface and User Experience Design **Credits:** 3
- INDD 440 - INDD Design Studio IV **Credits:** 5
- INDD 600 - Professional Practice **Credits:** 3
- ENGL 200 - Expository Writing II **Credits:** 3
- LAR 211 - Unlocking Creativity **Credits:** 3

Summer Option (7 credit hours)

- IARC 664 - Summer Internship **Credits:** 6
  AND
- IARC 665 - Summer Internship Report **Credits:** 1
  OR
- Study Abroad **Credits:** 7
  OR
- **Focus Courses **Credits:** 7

Seventh Semester (14 credit hours)

- INDD 606 - INDD Design Studio V **Credits:** 5
  AND
- ***Electives **Credits:** 9
  OR
- INDD 644 - Internship **Credits:** 9
  AND
- IARC 645 - Internship Report **Credits:** 5

Eighth Semester (15 credit hours)

- ENTRP 340 - Business Innovation and the Entrepreneurial Mindset **Credits:** 3
- INDD 801 - INDD Design Studio VI **Credits:** 5
- INDD 811 - Design Research **Credits:** 3
- IAID 814 - Furniture Design III **Credits:** 4

Ninth Semester (18 credit hours)

- INDD 810 - INDD Capstone Studio **Credits:** 5-6
- INDD 815 - Advanced Studio Programming **Credits:** 2-3
- ENTRP - Any ENTRP course level 300 or above **Credits:** 3
- *General Elective **Credits:** 6

Tenth Semester (15 credit hours)

- INDD 822 - Advanced Industrial Design Studio **Credits:** 6
  or
- IAID 824 - Advanced Furniture Design Studio **Credits:** 6
- IAID 891 - Contemporary Design Seminar **Credits:** 3

- *General Elective **Credits:** 6

Notes

*A minimum of fourteen (14) general elective credits must be taken. General electives may be taken in pursuit of a minor. They may be taken any time prior to or during the Interior Architecture and Product Design program and may include K-State approved AP, IB, CLEP, K-State Core if selected, and transfer credit. Students may not count more than three (3) total hours of recreation credits toward graduation.

**Focus Course includes INDD 605, as well as other department head approved courses, including those associated with a minor program. Petition process required.

***Electives taken in the seventh semester should support student interest including professional electives and study abroad courses. These may also be associated with a minor program.

Undergraduate Hours: 140

Graduate Hours: 30

Total Degree Requirement: 170

Master of Interior Architecture and Product Design

Interior Architecture (Non-Baccalaureate MIAR)

Master's degree requirements

Environmental Design Studies Program

First semester (17 credit hours)

- COMM 105 - Public Speaking IA **Credits:** 2
- ENVD 201 - Environmental Design Studio I **Credits:** 4
- ENVD 203 - Survey of the Design, Planning and Community Development Professions **Credits:** 1
- ENVD 204 - Studio Seminar **Credits:** 1
- ENVD 250 - History of the Designed Environment I **Credits:** 3
- MATH 100 - College Algebra **Credits:** 3
- *General Elective **Credits:** 2

Second semester (15 credit hours)

- ENGL 100 - Expository Writing I **Credits:** 3
- ENVD 202 - Environmental Design Studio II **Credits:** 4
- ENVD 251 - History of the Designed Environment II **Credits:** 3
- PHYS 115 - Descriptive Physics **Credits:** 5

IAPD NON-BACCALAUREATE PROFESSIONAL PROGRAM

Third semester (17 credit hours)

- IARC 248 - Fundamentals of Architectural Technology **Credits:** 3
- IARC 307 - IARC Design Studio I **Credits:** 5
- IAID 290 - Design and Material Culture **Credits:** 3
- IAID 299 - History of Furniture **Credits:** 3
- IAID 430 - Visual Communication I **Credits:** 3

Fourth semester (18 credit hours)

- ARCH 347 - Structural Systems in Architecture I **Credits:** 4
- ARCH 433 - Building Construction Systems in Architecture I **Credits:** 3
- IARC 320 - IARC Design Studio II **Credits:** 5
- IAID 431 - Visual Communication II **Credits:** 3
- ENGL 200 - Expository Writing II **Credits:** 3

Fifth semester (18 credit hours)

- ARCH 413 - Environmental Systems in Architecture I **Credits:** 4
- ARCH 448 - Structural Systems in Architecture II **Credits:** 4
- IARC 310 - IARC Digital Applications **Credits:** 2
- IARC 409 - Materials and Finishes **Credits:** 3
- IARC 435 - IARC Design Studio III **Credits:** 5

Sixth semester (18 credit hours)

- ARCH 514 - Environmental Systems in Architecture II **Credits:** 3
- IAID 407 - Design Workshop I **Credits:** 4
- IARC 440 - IARC Design Studio IV **Credits:** 5
- IARC 625 - Lighting **Credits:** 3
- IARC 628 - Construction Documentation **Credits:** 3

Summer Option (7 credit hours)

One of these three options to be completed after the 6th or 8th semester:

- IARC 664 - Summer Internship **Credits:** 6
- IARC 665 - Summer Internship Report **Credits:** 1
  or
- Study Abroad Experience **Credits:** 7
  or
- **Focus Courses **Credits:** 7

Seventh semester (17 credit hours)

- IAID 602 - Furniture Design II **Credits:** 4
- IAID 753 - Professional Practice: Professional Responsibility **Credits:** 1
- IAID 754 - Professional Practice: Office Practices **Credits:** 1
- IARC 755 - Professional Practice: Discipline-Specific Topics **Credits:** 1
- IARC 801 - IARC Design Studio V **Credits:** 5
- IARC 811 - Design Research **Credits:** 2-3

Eighth semester (14 credit hours)

- IARC 606 - IARC Design Studio VI **Credits:** 5
- ***Electives **Credits:** 9
  or
- IARC 644 - Internship **Credits:** 9
- IARC 645 - Internship Report **Credits:** 5

Ninth semester (14 credit hours)

- IARC 810 - IARC Capstone Studio **Credits:** 5-6
- IAID 814 - Furniture Design III **Credits:** 4
- IARC 815 - Advanced Studio Programming **Credits:** 2-3
- *General Elective **Credits:** 3

Tenth semester (15 credit hours)

- IARC 823 - Advanced Interior Architecture Design Studio **Credits:** 6
  or
- IAID 824 - Advanced Furniture Design Studio **Credits:** 6
- IAID 891 - Contemporary Design Seminar **Credits:** 3
- *General Elective **Credits:** 6

Notes

*A minimum of eleven (11) general elective credits must be taken. General electives may be taken in pursuit of a minor. They may be taken any time prior to or during the Interior Architecture program and may include K-State approved AP, IB, CLEP and transfer credit. Students may not count more than three (3) total hours of recreation credits toward graduation.

**Focus Courses include such courses as IARC 605 Problems in IARC courses, as well as other department head approved courses, including those associated with a minor program.

***Electives taken in the eighth semester should support student interest including professional electives and study abroad courses. These may also be associated with a minor program.

Undergraduate Hours: 140

Graduate Hours: 30

Total Degree Requirement: 170

Landscape Architecture and Regional & Community Planning

Huston Gibson, Head

1086 Seaton Hall
785-532-5961
Fax: 785-532-6722
E-mail: larcpadvising@k-state.edu
apdesign.k-state.edu/larcp

The Department of Landscape Architecture and Regional & Community Planning (LARCP) offers two accredited professional degree options: a Master of Landscape Architecture and a Master of Regional & Community Planning; an online Master of Science in Community Development and Graduate Certificate in Community Development; a Bachelor of Science in Real Estate and Community Development; and a Community Planning Minor. The programs provide nationally recognized and affordable education, real world engagement, and a strong LARCP community. Graduates of the programs are in demand throughout the country in private practice, governmental service, and academic setting.

The Master of Landscape Architecture (MLA) and Master of Regional & Community Planning (MRCP) degrees have two entry points. Undergraduate students complete a five-year plus Non-Baccalaureate Track. Students who have completed a bachelor's degree, regardless of the field of study, complete a Post-Baccalaureate Track of study (3-years plus for the MLA and 2-years for the MRCP), see the Department of Landscape Architecture and Regional & Community Planning page in the Graduate Catalog.

The MLA program prepares students to create and protect outdoor places of significance to the human experience; address ecological and social needs; plan for inclusive and equitable communities: to design landscape. Information about the resources and opportunities supporting students' preparation for professional practice is available at https://apdesign.k-state.edu/larcp/la/.

The MRCP program prepares students to be advocates for resilient cities that enhance quality of life in ways that are sustainable, equitable, and accessible to all citizens. We help communities address challenges related to resource conservation, growing of diverse populations, and continually changing technologies and value systems. Information about the resources and opportunities supporting students' preparation for professional practice is available at https://apdesign.k-state.edu/larcp/rcp/.

The Master of Science in Community Development prepares students to promote participatory democracy, sustainable development, rights, equality, economic opportunity, and social justice, through the organization, education and empowerment of people within their communities. Information about the fully online degree is available at https://online.k-state.edu/programs/community-development-masters/.

The new Bachelor of Science in Real Estate and Community (BS RECD) program uniquely bridges community development and business, preparing students to: bring together expertise in community development/social values and business/real estate, focusing on people and place; prepare for future workforce areas in downtown development programs, business improvement districts, environmental groups, in the public, private, and non-governmental organizational sectors; and, make connections between programs in APDesign and the College of Business.

Bachelor of Real Estate and Community Development

Real Estate and Community Development (BS)

The Bachelor of Real Estate and Community Development (RECD) program uniquely bridges community development and business. The degree prepares students to: bring together expertise in community development/social values and business/real estate (focusing on people and place) and prepare for future workforce areas such as downtown development programs, Business Improvement Districts, environmental groups, in the public, private, and non-governmental organizational sectors.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirement (1 Credit Hour)

- ENVD 203 - Survey of the Design, Planning and Community Development Professions **Credits:** 1

Program

First Semester (16 credit hours)

- MATH 100 - College Algebra **Credits:** 3 **KSC-3**
- LAR 101 - Introduction to Landscape Architecture **Credits:** 3
- COMM 106 - Public Speaking I **Credits:** 3 **KSC-2**
- ENVD 203 - Survey of the Design, Planning and Community Development Professions **Credits:** 1
- Free Electives **Credits:** 6 **KSC-7**

Second Semester (16 credit hours)

- ENGL 100 - Expository Writing I **Credits:** 3 **KSC-1**
- ARCH 299 - Appreciation of Architecture **Credits:** 3
- Arts & Humanities Elective **Credits:** 3 **KSC-6**
- Natural Sciences Elective **Credits**: 3 **KSC-4**
- Natural Sciences Lab **Credits**: 1 **KSC**-4
- Social Sciences Elective **Credits**: 3 **KSC-5**

Third Semester (15 credit hours)

- PLAN 115 - Introduction to Regional and Community Planning **Credits:** 3
- PLAN 320 - Community Development Field Workshop **Credits:** 3
- GEOG 302 - Cartography and Thematic Mapping **Credits:** 3

- STAT 225 - Introduction to Statistics **Credits:** 3

- ECON 110 - Principles of Macroeconomics **Credits:** 3
  OR
- ECON 120 - Principles of Microeconomics **Credits:** 3

Fourth Semester (16 credit hours)

- PLAN 215 - World Cities **Credits:** 3
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- ENGL 200 - Expository Writing II **Credits:** 3 **KSC-1**
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3

Fifth Semester (16 credit hours)

- PLAN 444 - Career Planning Seminar **Credits:** 2
- PLAN 510 - Graphic Composition and Representation for Planning **Credits:** 2
- PLAN 640 - Urban Design and Development **Credits:** 3
- FINAN 450 - Principles of Finance **Credits:** 3
- Social Sciences Elective **Credits:** 3 **KSC-5**
- Arts & Humanities Elective **Credits:** 3 **KSC-6**

Sixth Semester (12 credit hours)

- PLAN 665 - Professional Internship **Credits:** 1-9
- PLAN 703 - Off-Campus Studies **Credits:** 5
  OR
  General Electives Credits: 12

Seventh Semester (15 credit hours)

- PLAN 718 - Principles and Strategies of Community Change **Credits:** 3
- PLAN 720 - Infrastructure and Plan Implementation **Credits:** 3
- General Elective **Credits:** 3
- Professional Electives **Credits:** 6

Eighth Semester (14 credit hours)

- LAR 500 - Site Planning and Design **Credits:** 3
- FINAN 552 - Real Estate **Credits:** 3
- General Elective **Credits:** 2
- Professional Electives **Credits:** 6

Total Hours Required for Graduation: 120

Minor

Community Planning Minor

The minor in community planning is for students who wish to expand their knowledge of community planning and development processes. The minor is open to all majors and is especially suited for students in architecture, business, engineering, landscape architecture, political science, sociology and others interested in the quality of life in communities. To earn the minor in community planning, students are required to complete 15 credit hours of planning courses with grades of C or better.

Program requirements

Core requirements

Successful completion of the following planning courses:

- PLAN 115 - Introduction to Regional and Community Planning **Credits:** 3
- PLAN 215 - World Cities **Credits:** 3

Additional requirements

Successful completion of 9 credit hours of planning (PLAN) electives.

Criteria for admission

Students may declare this minor by contacting the LARCP Advising Liaison. To receive certification of the minor, declaration must be completed before enrolling in the 9 credit hours of planning electives.

For more information

Department of Landscape Architecture and Regional & Community Planning, College of Architecture, Planning and Design 785-532-5961.

Total credit hours: (15)

Other Program Choices

Real Estate and Community Development (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENVD 203 - Survey of the Design, Planning and Community Development Professions	1		
MATH 100 - College Algebra	3	**KSC 030**	

COMM 106 - Public Speaking I	3	**KSC 020**
LAR 101 - Introduction to Landscape Architecture	3	
Free Elective {Institutionally Designated Area}	6	**KSC 070**
Total Credits: 16		
Semester 2		
ENGL 100 - Expository Writing I	3	**KSC 010**
ARCH 299 - Appreciation of Architecture	3	
Arts & Humanities Requirement	3	**KSC 060**
Natural & Physical Sciences Requirement	3	**KSC 040**
Natural & Physical Sciences Lab Requirement	1	**KSC 040**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Second Year		
Semester 1		
PLAN 115 - Introduction to Regional and Community Planning	3	
PLAN 320 - Community Development Field Workshop	3	
GEOG 302 - Cartography and Thematic Mapping	3	
STAT 225 - Introduction to Statistics	3	
Choose One Of The Following Courses:		
ECON 110 - Principles of Macroeconomics	3	
ECON 120 - Principles of Microeconomics	3	
Total Credits: 15		

Semester 2		
PLAN 215 - World Cities	3	
LAR 298 - Ethics and Environmental Dilemmas	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
GEOG 508 - Geographic Information Systems I	4	
ACCTG 231 - Introduction to Managerial Accounting	3	
Total Credits: 16		
Third Year		
Semester 1		
PLAN 444 - Career Planning Seminar	2	
PLAN 510 - Graphic Composition and Representation for Planning	2	
PLAN 640 - Urban Design and Development	3	
FINAN 450 - Principles of Finance	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Semester 2		
PLAN 665 - Professional Internship	1-9	
PLAN 703 - Off-Campus Studies **OR**	5	
PLAN 703 - Off-Campus Studies	5	
General Electives **OR**	7	
General Electives	12	
Total Credits: 12		

Fourth Year		
Semester 1		
PLAN 718 - Principles and Strategies of Community Change	3	
PLAN 720 - Infrastructure and Plan Implementation	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Professional Electives	6	
Total Credits: 15		
Semester 2		
LAR 500 - Site Planning and Design	3	
FINAN 552 - Real Estate	3	
General Elective	2	
Professional Electives	6	
Total Credits: 14		
Total Program Hours: 120		

Master of Landscape Architecture

Landscape Architecture (MLA) (Non-Baccalaureate)

Landscape architects design places that connect people to the natural world, creating landscapes for people's everyday lives and their most memorable moments. The Master of Landscape Architecture degree prepares students to address the present and future environmental and urbanization challenges of our world.

Landscape architecture encompasses analysis, planning, design, management and stewardship of urban, suburban and rural environments. The profession includes the design of green spaces such as plazas, gardens and parks. On a broader scale, landscape architects analyze sites to determine their most appropriate future uses and management practices, including the arrangement of buildings, transportation, and pedestrian and green infrastructure systems.

The degree is offered through two tracks:

- The non-baccalaureate track for students without a previous degree allows students to enter as freshmen and progress through the professional graduate degree in landscape architecture
- The post-baccalaureate track for students with a previous degree allows completion of a first professional degree in landscape architecture.

Both lead to an MLA degree fully accredited by the Landscape Architectural Accreditation Board of the American Society of Landscape Architects.

Master's degree requirements

MLA program Master's Report Option

First semester (17 credit hours)

- COMM 106 - Public Speaking I **Credits:** 3
- ENVD 201 - Environmental Design Studio I **Credits:** 4
- ENVD 203 - Survey of the Design, Planning and Community Development Professions **Credits:** 1
- ENVD 204 - Studio Seminar **Credits:** 1
- ENVD 250 - History of the Designed Environment I **Credits:** 3
- MATH 100 - College Algebra **Credits:** 3
- *General Elective **Credits:** 2

Second semester (15 credit hours)

- ENGL 100 - Expository Writing I **Credits:** 3
- ENVD 202 - Environmental Design Studio II **Credits:** 4
- ENVD 251 - History of the Designed Environment II **Credits:** 3
- PHYS 115 - Descriptive Physics **Credits:** 5

Third semester (16 credit hours)

- LAR 010 - Travel: Regional 1 **Credits:** 0
- LAR 101 - Introduction to Landscape Architecture **Credits:** 3
- LAR 220 - Drawing Landscapes Studio **Credits:** 5
- LAR 230 - Modeling Landscapes Studio **Credits:** 5
- LAR 350 - Plants and Design **Credits:** 3

Fourth semester (16 credit hours)

- ENGL 200 - Expository Writing II **Credits:** 3
- LAR 020 - Travel: Regional 2 **Credits:** 0
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- LAR 420 - Socio-Ecological Systems Studio **Credits:** 5
- LAR 433 - Landscape History and Design Studio **Credits:** 5

Summer study (9 credit hours)

- LAR 030 - Travel: Narratives and Placemaking **Credits:** 0
- LAR 425 - Narratives and Placemaking Seminar **Credits:** 2
- LAR 430 - Narratives and Placemaking Studio **Credits:** 4
- PLAN 115 - Introduction to Regional and Community Planning **Credits:** 3

Fifth semester (16 credit hours)

- LAR 040 - Travel: Major City 1 **Credits:** 0
- LAR 352 - Landscape Performance Lab **Credits:** 3
- LAR 438 - Site Design Implementation **Credits:** 5
- LAR 442 - Site Research and Design Studio **Credits:** 5
- LAR 444 - Career and Academic Planning **Credits:** 3

Sixth semester (13 credit hours)

- LAR 050 - Travel: Major City 2 **Credits:** 0
- LAR 439 - Master Plan Design and Implementation **Credits:** 5
- LAR 646 - Community Engagement Studio **Credits:** 5
- *General Elective **Credits:** 3

Seventh semester (15 credit hours)

- LAR 725 - Research Methods **Credits:** 3
- LAR 740 - Advanced Studio **Credits:** 5
- LAR 750 - Advanced Seminar **Credits:** 3
- LAR 754 - Professional Practice: Office Practices **Credits:** 1
- ***Professional Elective **Credits:** 3

Eighth semester (12-14 credit hours)

KCDC or Study Abroad Option:

- LAR 703 - Landscape Architecture Off-Campus Studio **Credits:** 5
- Professional Electives **Credits:** 9

OR

Internship Option:

- LAR 703 LA Off-Campus Studio **Credits:** 5
- LAR 655 - Landscape Architecture Professional Internship **Credits:** 6-9

Ninth semester (11 credit hours)

- LAR 705 - Master's Project Studio 1 **Credits:** 5
- LAR 897 - Proposal Writing **Credits:** 2
- LAR 753 - Professional Practice: Professional Responsibility **Credits:** 1
- ***Professional Elective **Credits:** 3

Tenth semester (11 credit hours)

- LAR 710 - Master's Project Studio 2 **Credits:** 3
- LAR 898 - Master's Report **Credits:** 2
- ***Professional Electives **Credits:** 6

MLA program Master's Thesis Option

First Semester (17 credit hours)

- COMM 106 - Public Speaking I **Credits:** 3
- ENVD 201 - Environmental Design Studio I **Credits:** 4
- ENVD 203 - Survey of the Design, Planning and Community Development Professions **Credits:** 1
- ENVD 204 - Studio Seminar **Credits:** 1
- ENVD 250 - History of the Designed Environment I **Credits:** 3
- MATH 100 - College Algebra **Credits:** 3
- *General Elective **Credits:** 2

Second Semester (15 credit hours)

- ENGL 100 - Expository Writing I **Credits:** 3
- ENVD 251 - History of the Designed Environment II **Credits:** 3
- ENVD 202 - Environmental Design Studio II **Credits:** 4
- PHYS 115 - Descriptive Physics **Credits:** 5

Third Semester (16 credit hours)

- LAR 010 - Travel: Regional 1 **Credits:** 0
- LAR 101 - Introduction to Landscape Architecture **Credits:** 3
- LAR 220 - Drawing Landscapes Studio **Credits:** 5
- LAR 230 - Modeling Landscapes Studio **Credits:** 5
- LAR 350 - Plants and Design **Credits:** 3

Fourth Semester (16 credit hours)

- ENGL 200 - Expository Writing II **Credits:** 3
- LAR 020 - Travel: Regional 2 **Credits:** 0
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- LAR 420 - Socio-Ecological Systems Studio **Credits:** 5
- LAR 433 - Landscape History and Design Studio **Credits:** 5

Summer Study (9 credit hours)

- LAR 030 - Travel: Narratives and Placemaking **Credits:** 0

- LAR 425 - Narratives and Placemaking Seminar **Credits:** 2
- LAR 430 - Narratives and Placemaking Studio **Credits:** 4
- PLAN 115 - Introduction to Regional and Community Planning **Credits:** 3

Fifth Semester (16 credit hours)

- LAR 040 - Travel: Major City 1 **Credits:** 0
- LAR 352 - Landscape Performance Lab **Credits:** 3
- LAR 438 - Site Design Implementation **Credits:** 5
- LAR 442 - Site Research and Design Studio **Credits:** 5
- LAR 444 - Career and Academic Planning **Credits:** 3

Sixth Semester (13 credit hours)

- LAR 050 - Travel: Major City 2 **Credits:** 0
- LAR 439 - Master Plan Design and Implementation **Credits:** 5
- LAR 646 - Community Engagement Studio **Credits:** 5
- *General Elective **Credits:** 3

Seventh Semester (14 credit hours)

- LAR 725 - Research Methods **Credits:** 3
- LAR 740 - Advanced Studio **Credits:** 5
- LAR 750 - Advanced Seminar **Credits:** 3

***Professional Elective **Credits:** 3

Eighth Semester (13-16 credit hours)

KCDC or Education Abroad Option

- LAR 703 - Landscape Architecture Off-Campus Studio **Credits:** 5

***Professional Electives **Credits:** 9

OR

Internship Option:

LAR 703 - Landscape Architecture Off-Campus Studio **Credits:** 5

- LAR 655 - Landscape Architecture Professional Internship **Credits:** 6-9
- LAR 897 - Proposal Writing **Credits:** 2

Ninth Semester (11 credit hours)

- LAR 753 - Professional Practice: Professional Responsibility **Credits:** 1
- LAR 754 - Professional Practice: Office Practices **Credits:** 1
- LAR 899 - Research in Landscape Architecture **Credits:** 1-18
- ***Professional Electives **Credits:** 6

Tenth Semester (10 credit hours)

- LAR 899 - Research in Landscape Architecture **Credits:** 1-18
- ***Professional Electives **Credits:** 6

MLA program Master's Coursework Option

First Semester (17 credit hours)

- ENVD 201 - Environmental Design Studio I **Credits:** 4
- ENVD 203 - Survey of the Design, Planning and Community Development Professions **Credits:** 1
- ENVD 204 - Studio Seminar **Credits:** 1
- ENVD 250 - History of the Designed Environment I **Credits:** 3
- MATH 100 - College Algebra **Credits:** 3
- COMM 106 - Public Speaking I **Credits:** 3
  *General Elective **Credits:** 2

Second Semester (15 credit hours)

- ENVD 202 - Environmental Design Studio II **Credits:** 4
- ENVD 251 - History of the Designed Environment II **Credits:** 3
- PHYS 115 - Descriptive Physics **Credits:** 5
- ENGL 100 - Expository Writing I **Credits:** 3

Third Semester (16 credit hours)

- LAR 010 - Travel: Regional 1 **Credits:** 0
- LAR 101 - Introduction to Landscape Architecture **Credits:** 3
- LAR 220 - Drawing Landscapes Studio **Credits:** 5
- LAR 230 - Modeling Landscapes Studio **Credits:** 5
- LAR 350 - Plants and Design **Credits:** 3

Fourth Semester (16 credit hours)

- LAR 020 - Travel: Regional 2 **Credits:** 0
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- LAR 420 - Socio-Ecological Systems Studio **Credits:** 5
- LAR 433 - Landscape History and Design Studio **Credits:** 5
- ENGL 200 - Expository Writing II **Credits:** 3

Summer Study (9 credit hours)

- LAR 030 - Travel: Narratives and Placemaking **Credits:** 0
- LAR 425 - Narratives and Placemaking Seminar **Credits:** 2
- LAR 430 - Narratives and Placemaking Studio **Credits:** 4
- PLAN 115 - Introduction to Regional and Community Planning **Credits:** 3

Fifth Semester (16 credit hours)

- LAR 040 - Travel: Major City 1 **Credits:** 0
- LAR 352 - Landscape Performance Lab **Credits:** 3
- LAR 438 - Site Design Implementation **Credits:** 5
- LAR 442 - Site Research and Design Studio **Credits:** 5
- LAR 444 - Career and Academic Planning **Credits:** 3

Sixth Semester (13 credit hours)

- LAR 050 - Travel: Major City 2 **Credits:** 0
- LAR 439 - Master Plan Design and Implementation **Credits:** 5
- LAR 646 - Community Engagement Studio **Credits:** 5

  *General Elective **Credits:** 3

Seventh Semester (15 credit hours)

- LAR 725 - Research Methods **Credits:** 3
- LAR 740 - Advanced Studio **Credits:** 5
- LAR 750 - Advanced Seminar **Credits:** 3
- LAR 754 - Professional Practice: Office Practices **Credits:** 1

  ***Professional Elective **Credits:** 3

Eighth Semester (12-14 credit hours)

KCDC or Study Abroad Option:

- LAR 703 - Landscape Architecture Off-Campus Studio **Credits:** 5

  ***Professional Elective **Credits:** 9

  OR

  Intership Option:

  LAR 703 Landscape Architecture Off-Campus Studio **Credits:** 5
- LAR 655 - Landscape Architecture Professional Internship **Credits:** 6-9

Ninth Semester (11 credit hours)

- LAR 751 - Comprehensive Studio 1 **Credits:** 5
- LAR 753 - Professional Practice: Professional Responsibility **Credits:** 1
- LAR 761 - Comprehensive Seminar 1 **Credits:** 2

  Professional Elective **Credits:** 3

Tenth Semester (13 credit hours)

- LAR 752 - Comprehensive Studio 2 **Credits:** 5
- LAR 762 - Comprehensive Seminar 2 **Credits:** 2

  ***Professional Elective **Credits:** 6

Notes

All required courses taught in the landscape architecture and regional & community planning programs that are counted toward the degree must be passed with a grade of C or better. Graduate School admission is contingent upon completion of all required courses in the 3rd - 6th semesters.

*A minimum of five (5) general elective credits must be taken. General elective may be taken in pursuit of a minor. They may be taken any time prior to or during the Landscape Architecture program and may include KSU approved AP, IB, CLEP and transfer credit. Students may not count more than 3 total hours of recreation credits toward graduation.

**Off-campus semester: Two distinct study opportunities are offered, requiring 11-14 credit hours. The study abroad and the internship options have course requirements that substitute for the 9 professional elective credit requirements. If the internship option is not selected during the seventh or eighth semester, a summer internship is required before graduation.

*** Six (6) credit hours of the required graduate level professional electives must be LARCP courses. Students may petition for an exception to this policy if there is a demonstrated academic benefit.

Undergraduate Hours: 118

Graduate Hours: 35-37

Total Degree Hours: 153-155

Master of Regional and Community Planning

Regional & Community Planning (Non-Baccalaureate MRCP)

Program Definition

The Master of Regional & Community Planning integrates the concept of comprehensive community development planning in an environmental context with considerations for social, economic, cultural and political issues in the community while recognizing the importance of financial management, private enterprise-government relations, and citizen participation in community decision making. Core courses reflect the impact of these key concerns on traditional planning activities, while exploring related ethical issues in depth.

With a firm educational foundation in basic planning and analytical techniques, management, human relations, and ethics, today's MRCP graduate will have the skills and judgment to become tomorrow's successful practicing planner.

Graduates of our program become directors or managers of community development / city planning departments, economic development agencies, housing or related departments and agencies in cities, small communities, counties and regions. Some graduates may use the same educational background to become directors of planning or related activities in private consulting firms and research organizations, while others may enter the field of real estate development and a host of related disciplines.

Program Mission and Objections

We prepare graduates to be effective advocates of resilient cities and responsible for community growth and redevelopment. We engage in the exchange of ideas that develop strategic visioning to enhance quality of life in ways that are sustainable, equitable, and accessible to all our citizens. We contribute to the expansion of knowledge through research and its dissemination, outreach to various constituents, and professional education grounded in creative and critical thinking. Students and faculty engage in

exploration, analysis, synthesis, and resolution of planning, design and management issues. Our aim is to help communities effectively address challenges related to resource conservation, growing of diverse populations, and continually changing technologies and value systems.

First semester (15 credit hours)

- ENVD 203 - Survey of the Design, Planning and Community Development Professions **Credits:** 1
- MATH 100 - College Algebra **Credits:** 3
- COMM 105 - Public Speaking IA **Credits:** 2
- Humanities/Design Elective* **Credits:** 3
- Social Science/History Elective* **Credits:** 3
- Social Science/Sociology Elective* **Credits:** 3

Second semester (16 credit hours)

- ENGL 100 - Expository Writing I **Credits:** 3
- General Elective* **Credits:** 3
- Humanities/Design Electives* **Credits:** 6
- Natural Science Elective with Lab* **Credits:** 4

Third semester (15 credit hours)

- GEOG 302 - Cartography and Thematic Mapping **Credits:** 3
- PLAN 115 - Introduction to Regional and Community Planning **Credits:** 3
- PLAN 510 - Graphic Composition and Representation for Planning **Credits:** 2
- General Elective* **Credits:** 3
- Social Science/Economics Elective* **Credits:** 3

Fourth semester (16 credit hours)

- ENGL 200 - Expository Writing II **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- PLAN 215 - World Cities **Credits:** 3
- General Elective* **Credits:** 3

Fifth semester (13 credit hours)

- PLAN 010 - Planning Field Trip 1 **Credits:** 0
- PLAN 444 - Career Planning Seminar **Credits:** 2
- PLAN 510 - Graphic Composition and Representation for Planning **Credits:** 2
- PLAN 640 - Urban Design and Development **Credits:** 3
- General Elective* **Credits:** 6

Sixth semester (14 credit hours)

KCDC or Study Abroad Option:

- PLAN 703 - Off-Campus Studies **Credits:** 5
- Professional Electives **Credits:** 9

Internship Option:

- PLAN 655 - Land Development Planning **Credits:** 3
- PLAN 703 - Off-Campus Studies **Credits:** 5

Seventh semester (12 credit hours)

- PLAN 707 - Writing and Thinking the City **Credits:** 3
- PLAN 720 - Infrastructure and Plan Implementation **Credits:** 3
- PLAN 801 - Knowledge Methods **Credits:** 3
- Professional Elective **Credits:** 3

Eighth semester (13-14 credit hours)

Thesis Option (13 credit hours):

- LAR 500 - Site Planning and Design **Credits:** 3
- PLAN 020 - Planning Field Trip **Credits:** 0
- PLAN 812 - Planning Theory & Law **Credits:** 3
- PLAN 836 - Plan Making **Credits:** 5
- PLAN 897 - Proposal Writing **Credits:** 2-3

Report Option (14 credit hours)

- LAR 500 - Site Planning and Design **Credits:** 3
- PLAN 020 - Planning Field Trip 2 **Credits:** 0
- PLAN 812 - Planning Theory & Law **Credits:** 3
- PLAN 836 - Plan Making **Credits:** 5
- PLAN 897 - Proposal Writing **Credits:** 3

Ninth semester (12 credit hours)

Thesis Option:

- PLAN 730 - Planning Professional Practice **Credits:** 3
- PLAN 899 - Research in Planning **Credits:** 0-18
- Professional Electives **Credits:** 6

Report Option:

- PLAN 730 - Planning Professional Practice **Credits:** 3
- Professional Electives **Credits:** 9

Tenth semester (11-12 credit hours)

Report Option (11 credit hours):

- PLAN 705 - Master's Project **Credits:** 3
- PLAN 898 - Master's Report **Credits:** 2

- Professional Electives **Credits:** 6

Thesis Option (12 credit hours):

- PLAN 899 - Research in Planning **Credits:** 0-18
- Professional Elective **Credits:** 9

Total credit hours required for graduation: (138)

- Undergraduate Hours **Credits:** (92)
- Graduate Hours **Credits:** (46)

*A minimum of fourteen (14) general elective credits must be taken. General electives may be taken in pursuit of a minor. They may be taken any time prior to or during the Regional and Community Planning program and may include KSU approved AP, IB, CLEP and transfer credit. Students may not count more than three (3) total hours of recreation credits toward graduation.

Professional Electives must include 6 graduate credit hours of PLAN courses.

All required courses taught in the Landscape Architecture and Regional & Community Planning Programs that are counted toward the degree must be passed with a grade of C or better.

College of Arts and Sciences

Christopher Culbertson, Dean
Scott Tanona, Associate Dean for Academic Affairs and Planning
Mary Cain, Associate Dean for Research and Graduate Studies
Christie Launius, Assistant Dean for Student Success, Engagement, and Undergraduate Studies
Kimathi Choma, Assistant Dean for Student Success, College Health Initiative and Retention
Ben Stark, Assistant Dean for Infrastructure and Faculty Support

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The College of Arts and Sciences is the home of a wide range of disciplines in the arts and humanities, social sciences, and natural and quantitative sciences—representing the foundational areas of a university education. An Arts & Sciences education provides a broad base of educational experience and general readiness for a variety of life and job options; discipline-specific knowledge and career skills; and opportunities for interdisciplinary study, involvement in cutting-edge research, and preparation for graduate or professional school. Most undergraduate degree programs offer a Bachelor of Science (B.S.) or a Bachelor of Arts (B.A.). The college also offers specialized degrees such as the Bachelor of Fine Arts (B.F.A.), the Bachelor of Music (B.M), and the Bachelor of Music Education (B.M.E). All B.A. and B.S. programs in Arts and Sciences contain a set of requirements meant to ensure student success, breadth of training, and a general foundation for civic and global responsibility.

Orientation Requirement (1 credit):

An orientation is required for all Arts & Science majors. The orientation supports student success by introducing them to resources and tools for effective learning within and beyond their primary major. The orientation will introduce students to other students across the college to foster and model interdisciplinary exchange and collaboration.

Outside Concentration requirement for B.A. and B.S. (9 credit hours)

Arts & Science students are expected to study another area of their choice outside of their major. Many A&S students earn second majors, minor, or certificates that broaden their knowledge base and provide them additional context and skills that might enhance their careers or lives more generally. At a minimum, students must pursue at least 9 credit hours of an outside concentration, though some credits may overlap with their own major.

Overlays (9 credit hours total)

The college requires all students in all Arts and Sciences degree programs to take a total of three courses in the areas below. These courses may "overlay" other requirements for the degree, and be satisfied by courses taken for the K-State Core, courses in the major or other B.A. or B.S. program requirements, the outside concentration, or general electives.

Ethical Reasoning (3 credit hours)
This overlay provides students with the tools for reasoning about moral behavior and just social arrangements, including forms of government and legal and social conventions. It provides a wide basis for negotiating moral complexity and for critically reflecting upon fundamental issues that shape social institutions and individual actions.

US Multicultural Overlay (3 credit hours)
This overlay ensures that students learn about historical and contemporary cultural contexts and societal realities of race and ethnicities that are considered as non-white in the United States.

Global Perspectives Overlay (3 credit hours)
This overlay equips students better to become citizens of the world and learn how to understand and approach global issues.

Other Requirements

All B.S. and B.A. programs must ensure that their majors take a distribution of courses in several areas, typically as at least a second or upper-level class in the subject areas. For example, all B.A. students must fulfill a language requirement, additional arts and humanities and social science courses, and an additional natural and quantitative course. B.S. programs must ensure that their students earn sufficient natural and quantitative credits, as well as a minimum of additional arts & humanities and social sciences. Depending on the major and the requirement category, particular courses in these areas may be required as part of the core major requirements, or students may be given a choice to pick from a wide range of "restricted electives" in these areas.

Arts & Sciences offers the following interdisciplinary credentials that are not housed in or listed under any particular unit:

Bachelor of Arts

Life Science (BA)

Life Science is an interdisciplinary major that deals with studies of living organisms and life processes. It is a flexible major combining biology, psychology, chemistry, and biological anthropology. It provides students a well-rounded approach to the science of people and associated career paths with its interdisciplinary approach. Life Sciences promotes critical thinking and problem solving skills that can be applied to real-world issues. The flexibility and content within this major provide training and readiness for those interested in health, research, non-profit, and other people and science centered careers.

This major combines a series of fundamental courses key in the life sciences along with open major electives so that students have the flexibility to build an academically diverse educational experience across the life science disciplines in a way that highlights their interests and career goals.

Towards the end of the major, students will participate in an applied experience. The applied experience for the Life Science major allows students to engage in an experience (i.e. internship, practicum, research, project, etc) and have opportunities to connect it to their life science studies and career goals through guided reflection.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Arts & Sciences common degree requirements for the BA are satisfied by the following:

- BIOL 300-799 (at least one course at 300 level or above)
- Quantitative Requirement (either MATH or STAT)
- Psychological Requirement
- BA Arts, Humanities, and Social Sciences Restricted Electives
- BA Second Language Requirement

Orientation: 1 credit hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 credit hours

Outside credential of at least 9 credit hours (May be from any unit, **except Biology, Biochemistry, Psychology, and Chemistry,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for BIOL, ANTH [only biological anth courses], BIOCH, PSYCH, CHM**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Major Requirements

Life Science Foundation: 37-45 credit hours

Foundational knowledge in the primary Life Science disciplines: Biology, Chemistry, Psychology, and Biological Anthropology.

- ANTH 280 - Introduction to Biological Anthropology **Credits:** 4
- BIOL 198 - Principles of Biology **Credits:** 4
- PSYCH 110 - General Psychology **Credits:** 3

Biology Requirement: 12 credit hours

12 credits of any Biology course level 300-799, including BIOL 198

- BIOL 198 - Principles of Biology **Credits:** 4

Anthropology Requirement: 4 credit hours

- ANTH 280 - Introduction to Biological Anthropology **Credits:** 4

Psychology Requirement: 6 credit hours

6 credits of any Psychology course level 300-799, including PSYCH 110

- PSYCH 110 - General Psychology **Credits:** 3

Quantitative Requirement: 3 credit hours

Choose one MATH or STAT course from below.

If not met through K-State Core requirements, MATH 100 is required.

- MATH 100 - College Algebra **Credits:** 3
  KSC-030
- MATH 150 - Plane Trigonometry **Credits:** 3
- MATH 205 - General Calculus **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- STAT 225 - Introduction to Statistics **Credits:** 3
- **Courses below do not count for KSC-030** STAT 240 - Biometrics I **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

Organic (Bio)chemistry Requirement: 9-16 credit hours

Choose one option from below

Option 1: 9 credit hours

- CHM 110 - General Chemistry **Credits:** 3
- CHM 111 - General Chemistry Laboratory **Credits:** 1
- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5

Option 2: 13 credit hours

- CHM 210 - Chemistry I **Credits:** 4
- CHM 230 - Chemistry II **Credits:** 4
- CHM 350 - General Organic Chemistry **Credits:** 3
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2

Option 3: 16 credit hours

- CHM 210 - Chemistry I **Credits:** 4
- CHM 230 - Chemistry II **Credits:** 4
- CHM 531 - Organic Chemistry I **Credits:** 3
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
- CHM 550 - Organic Chemistry II **Credits:** 3

Option 4: 13 credit hours

- CHM 210 - Chemistry I **Credits:** 4
- CHM 230 - Chemistry II **Credits:** 4
- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5

Integrated Elective and Applied Experience: 4 credit hours

Integrated Medicine, Health, or Life Elective: 3 credit hours

Choose one of the following:

- AMETH 351 - African American Perspectives **Credits:** 3
- ANTH 315 - Introduction to Medical Anthropology & Global Health **Credits:** 3
- ECON 688 - Health Economics **Credits:** 3
- ENGL 392 - Literature and the Body **Credits:** 3
- GWSS 435 - Race/Sex/Science **Credits:** 3
- HIST 534 - Social History of Medicine **Credits:** 3
- PHILO 365 - Medical Ethics **Credits:** 3
- PSYCH 470 - Principles of Neuroscience **Credits:** 3
- SPAN 531 - Professional Spanish: Health and Human Services **Credits:** 3

Applied Learning: 1 credit hour

Choose one of the following:

- BIOCH 599 - Research Training in Biochemistry **Credits:** 1-3

- BIOL 698 - Research in Biology **Credits:** 0-8
- CHM 497 - Research in Undergraduate Chemistry **Credits:** 1-3
- DAS 240 - Practicum in Pre-Health **Credits:** 1
- DAS 400 - Undergraduate Research in Arts and Sciences **Credits:** 0-3
- DAS 497 - Integrated Health Studies Capstone **Credits:** 0-2
- DAS 506 - Undergraduate Cancer Research **Credits:** 1
- PSYCH 599 - Research in Psychology **Credits:** 0-18

Major Electives: 12 credit hours

The 12 elective credit hours must be at or above the 300 level and they must be selected from two or more fields, which may include the following areas in Arts & Sciences:

- Biochemistry - BIOCH 300 TO BIOCH 799
- Biology - BIOL 300 TO BIOL 799
- Organic Chemistry - CHM 531,CHM 532,CHM 550,CHM 551
- Biological Anthropology - ANTH 380 TO ANTH 389, ANTH 580 TO 589, ANTH 680 TO 689, ANTH 780 TO 789
- Psychology - PSYCH 300 TO PSYCH 799

While all 12 hours may be taken from the A&S disciplines listed above, up to two elective courses, totaling no more than six credit hours may be chosen from selected courses in other college from the approved list below:

- AP 600 - Introduction to Pharmacology for Health Professionals **Credits:** 3
- ASI 500 - Genetics **Credits:** 3
- ASI 533 - Physiology of Domestic Animals **Credits:** 3
- DAS 501 - Health Science Clinical Training **Credits:** 3-12
- DMP 710 - Introduction to One Health **Credits:** 2
- FNDH 400 - Human Nutrition **Credits:** 3
- FNDH 510 - Life Span Nutrition **Credits:** 2
- FNDH 553 - Pharmacology in Athletic Training **Credits:** 2
- GERON 425 - Introduction to Physical Health & Well-Being of Older Adults **Credits:** 3
- KIN 330 - Biomechanics **Credits:** 3
- KIN 335 - Physiology of Exercise **Credits:** 4
- KIN 336 - Physiology of Exercise Lab **Credits:** 1
- KIN 345 - Exercise Behavioral Science **Credits:** 5
- KIN 387 - Introduction to Integrative Human Pathophysiology **Credits:** 3
- KIN 591 - Psychology of Exercise and Sport Injury **Credits:** 3

  For students in the WSU Nursing Pathways program, up to 6 credit hours of approved WSU nursing courses may be counted towards life science electives. To be counted within the degree, a placeholder of DAS 001 may be enrolled in.
  *Approved courses from WSU - HS 301, HS 400, NURS 320, NURS 341, NURS 349, NURS 375, NURS 479

BA Arts, Humanities, and Social Sciences Requirement: 12 credit hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

(The other 6 hours are fulfilled in program)

One course in Humanities Credits: 3 credit hours

Any course or combination of courses in Fine Arts Credits: 3 credit hours

BA Second Language Requirement: 6 credit hours

Choose one of the following:

Option 1: 3-14 credit hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 credit hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 credit hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 0-52 credit hours

Once college and major requirements are fulfilled, the remaining hours to hit a baseline of 120 may be of your choosing.

Pre-vet option

Students who complete the College of Arts and Sciences basic requirements, the preveterinary prerequisites, all the life science major requirements except the electives, and a minimum of 84 credit hours prior to enrolling in the College of Veterinary Medicine at K-State may earn a life science degree after successful completion of the first year of veterinary medical school.

WSU Nursing Pathways option

Students who complete the K-State CORE, College of Arts and Sciences restricted electives, the pre-nursing prerequisites, all the life science major requirements prior to enrolling in the WSU Nursing Pathway program specific to KSU students may earn a life science degree after successful completion of nursing school.

Additional Professional Option

Students who already hold a baccalaureate- or graduate-level health professional degree (e.g., nursing, dental hygiene, chiropractic, etc) may be allowed to transfer up to nine hours of upper-level health-related courses from the health professional school to the life science degree for elective credit. Such transfers must be approved by the Life Science Steering Committee.

Notes

*A minimum of 15 credit hours in the major must be taken at K-State. Only transfer courses accepted by departments to meet requirements in their majors will be accepted to meet requirements in the life science major.

To obtain a life science degree a student must earn a C or better in all courses (including transfer work) used to fulfill the Life Science Foundational Degree Requirements, Integrated Elective, and Major Elective Block.

The life science degree is not available to students who will earn a degree in biochemistry, biology, or microbiology.

Total Hours Required for Graduation: 120

Physical Science (BA)

The Physical Science Interdisciplinary major focuses primarily on the study of nonliving matter. It concerns itself with the theoretical and observable natural phenomena of our world and universe.

Cutting across a variety of Physical Science disciplines, it intentionally trades depth of learning for broader scope of inquiry. By offering more latitude in its curriculum design, it often allows students to prepare for less traditional or unique scientific ventures. It also occasionally serves as an undergraduate pathway to certain professional programs.

To best meet individual needs and interests, career goals and the requirements of the major, close cooperation with your advisor is highly recommended.

Students majoring in Physical Science must earn grades of C or better in all courses required for the major in the areas Physical Science Foundation, Physical Science Electives, and Senior Capstone, including transfer work applied to these areas.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (10 credit hours)

Orientation: (1 credit hour)

Outside Concentration: (9 credit hours)

Outside credential of at least 9 credit hours (May be from any unit, **except CHM, PHYS, GEOG, GEOL),** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for CHM, PHYS, GEOG, GEOL**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: ([9] credit hours)

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Physical Science Foundation: (31-35 credit hours)

Complete the following foundational requirements. Note that several requirements have options

Math Requirements: (8 credit hours)

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4

Chemistry Requirement: (8-10 credit hours)

Take either version of both Chemistry I and Chemistry II

- CHM 210 - Chemistry I **Credits:** 4
  OR
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
  OR
- CHM 250 - Honors Chemistry II **Credits:** 5

Physics Requirement: (8-10 credit hours)

Take either version of both Physics I and Physics II

- PHYS 113 - General Physics I **Credits:** 4
  OR
- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 114 - General Physics II **Credits:** 4
  OR

- PHYS 214 - Engineering Physics II **Credits:** 5

Physical Geography or Geology: (4 credit hours)

Physical Geography or Geology Requirement. Choose one combination of lecture and lab.

Either both of the following Physical Geography courses

- GEOG 121 - Introductory Physical Geography: Earth Systems Science **Credits:** 3
- GEOG 122 - Introduction to Physical Geography: Earth Systems Science Laboratory **Credits:** 1

OR both of the following Geology courses

- GEOL 100 - Earth in Action **Credits:** 3
- GEOL 103 - Geology Laboratory **Credits:** 1

Statistics Requirement: (3 credit hours)

- STAT 225 - Introduction to Statistics **Credits:** 3

OR

- STAT 240 - Biometrics I **Credits:** 3

OR

- STAT 410 - Probabilistic Systems Modeling **Credits:** 3

OR

- STAT 510 - Introductory Probability and Statistics I **Credits:** 3

Physical Science Electives: (12 credit hours)

Select 12 credit hours from the following disciplines at 300+ level. 9 of the credits must come from CHM, GEOG, GEOL, PHYS.

- CHM 300-799
- GEOG 300-799
- GEOL 300-799
- PHYS 300-799
- MATH 300-799
- STAT 300-799
- CIS 300-799

Senior Capstone: (1 credit hour)

Students will complete a senior report/capstone experience in DAS 499.

- DAS 499 - Physical Sciences Senior Report **Credits:** 1

BA Arts, Humanities, and Social Sciences Restricted Electives: (12 credit hours)

3 credit hours in each of the following, with at least 6 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities: (3 credit hours)

Any course or combination of courses in Fine Arts: (3 credit hours)

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq: (3 credit hours)

BA Second Language Restricted Electives: (3-16 credit hours)

Choose one of the following:

Option 1: (3-14 credit hours)

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: (16 credit hours)

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: (3 credit hours)

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: (0-17 credit hours)

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Bachelor of Science

Life Science (BS)

Life Science is an interdisciplinary major that deals with studies of living organisms and life processes. It is a flexible major combining biology, psychology, chemistry, and biological anthropology. It provides students a well-rounded approach to the science of people and associated career paths with its interdisciplinary approach. Life Sciences promotes critical thinking and problem solving skills that can be applied to real-world issues. The flexibility and content within this major provide training and readiness for those interested in health, research, non-profit, and other people and science centered careers.

This major combines a series of fundamental courses key in the life sciences along with open major electives so that students have the flexibility to build an academically diverse educational experience across the life science disciplines in a way that highlights their interests and career goals.

Towards the end of the major, students will participate in an applied experience. The applied experience for the Life Science major allows students to engage in an experience (i.e. internship, practicum, research, project, etc) and have opportunities to connect it to their life science studies and career goals through guided reflection.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 credit hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 credit hours

Outside credential of at least 9 credit hours (May be from any unit, **except Biology, Biochemistry, Psychology, and Chemistry**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for BIOL, ANTH [only biological anth courses], BIOCH, PSYCH, CHM**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] credit hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Program

Life Science Foundation: 37-45 credit hours

Foundational knowledge in the primary Life Science disciplines: Biology, Chemistry, Psychology, and Biological Anthropology.

Biology Requirement: 12 credit hours

12 credits of any Biology course level 300-799, including BIOL 198

- BIOL 198 - Principles of Biology **Credits:** 4

Anthropology Requirement: 4 credit hours

- ANTH 280 - Introduction to Biological Anthropology **Credits:** 4

Psychology Requirement: 6 credit hours

6 credits of any Psychology course level 300-799, including PSYCH 110

- PSYCH 110 - General Psychology **Credits:** 3

Quantitative Requirement: 6 credit hours

Math

Choose one:

If not met through K-State Core requirements, MATH 100 is required.

- MATH 100 - College Algebra **Credits:** 3
  KSC-030
- MATH 150 - Plane Trigonometry **Credits:** 3
- MATH 205 - General Calculus **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Statistics

Choose one

- STAT 225 - Introduction to Statistics **Credits:** 3
- *Courses below will not count for KSC-030* STAT 240 - Biometrics I **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

Organic (Bio)chemistry Requirement: 9-16 credit hours

Choose one option from below

Option 1: 9 credit hours

- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
- CHM 110 - General Chemistry **Credits:** 3

- CHM 111 - General Chemistry Laboratory **Credits:** 1

Option 2: 13 credit hours

- CHM 210 - Chemistry I **Credits:** 4
- CHM 230 - Chemistry II **Credits:** 4
- CHM 350 - General Organic Chemistry **Credits:** 3
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2

Option 3: 16 credit hours

- CHM 210 - Chemistry I **Credits:** 4
- CHM 230 - Chemistry II **Credits:** 4
- CHM 531 - Organic Chemistry I **Credits:** 3
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
- CHM 550 - Organic Chemistry II **Credits:** 3

Option 4: 13 credit hours

- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
- CHM 210 - Chemistry I **Credits:** 4
- CHM 230 - Chemistry II **Credits:** 4

Integrated Elective and Applied Experience: 4 credit hours

Integrated Medicine, Health, or Life Elective: 3 credit hours

Choose one

- AMETH 351 - African American Perspectives **Credits:** 3
- ANTH 315 - Introduction to Medical Anthropology & Global Health **Credits:** 3
- ECON 688 - Health Economics **Credits:** 3
- ENGL 392 - Literature and the Body **Credits:** 3
- GWSS 435 - Race/Sex/Science **Credits:** 3
- HIST 534 - Social History of Medicine **Credits:** 3
- PHILO 365 - Medical Ethics **Credits:** 3
- PSYCH 470 - Principles of Neuroscience **Credits:** 3
- SPAN 531 - Professional Spanish: Health and Human Services **Credits:** 3

Applied Learning: 1 credit hour

Choose one

- BIOCH 599 - Research Training in Biochemistry **Credits:** 1-3
- BIOL 698 - Research in Biology **Credits:** 0-8
- CHM 497 - Research in Undergraduate Chemistry **Credits:** 1-3

- DAS 240 - Practicum in Pre-Health **Credits:** 1
- DAS 400 - Undergraduate Research in Arts and Sciences **Credits:** 0-3
- DAS 497 - Integrated Health Studies Capstone **Credits:** 0-2
- DAS 506 - Undergraduate Cancer Research **Credits:** 1
- PSYCH 599 - Research in Psychology **Credits:** 0-18

Major Electives: 12 credit hours

The 12 elective credit hours must be at or above the 300 level and they must be selected from two or more fields, which may include the following areas in Arts & Sciences:

- Biochemistry - BIOCH 300 TO BIOCH 799
- Biology - BIOL 300 TO BIOL 799
- Organic Chemistry - CHM 531, CHM 532, CHM 550, CHM 551
- Biological Anthropology - ANTH 380 TO ANTH 389, ANTH 580 TO 589, ANTH 680 TO 689, ANTH 780 TO ANTH 789
- Psychology - PSYCH 300 TO PSYCH 799

While all 12 hours may be taken from the A&S disciplines listed above, up to two elective courses, totaling no more than six credit hours may be chosen from selected courses in any other college from the approved list below:

- AP 600 - Introduction to Pharmacology for Health Professionals **Credits:** 3
- ASI 500 - Genetics **Credits:** 3
- ASI 533 - Physiology of Domestic Animals **Credits:** 3
- DAS 501 - Health Science Clinical Training **Credits:** 3-12
- DMP 710 - Introduction to One Health **Credits:** 2
- FNDH 400 - Human Nutrition **Credits:** 3
- FNDH 510 - Life Span Nutrition **Credits:** 2
- FNDH 553 - Pharmacology in Athletic Training **Credits:** 2
- GERON 425 - Introduction to Physical Health & Well-Being of Older Adults **Credits:** 3
- KIN 330 - Biomechanics **Credits:** 3
- KIN 335 - Physiology of Exercise **Credits:** 4
- KIN 336 - Physiology of Exercise Lab **Credits:** 1
- KIN 345 - Exercise Behavioral Science **Credits:** 5
- KIN 387 - Introduction to Integrative Human Pathophysiology **Credits:** 3
- KIN 591 - Psychology of Exercise and Sport Injury **Credits:** 3

  For students in the WSU Nursing Pathways program, up to 6 credit hours of approved WSU nursing courses may be counted towards life science electives. To be counted within the degree, a placeholder of DAS 001 may be enrolled in.
  *Approved courses from WSU - HS 301, HS 400, NURS 320, NURS 341, NURS 349, NURS 375, NURS 479

BS Arts, Humanities, and Social Sciences Restricted Electives: 3 credit hours

3 credit hours in each of the following, at any level

Fine Arts or Humanities: Any course or combination of courses: 3 credit hours

Free Electives: 0-20 credit hours

Once college and major requirements are fulfilled, the remaining hours to hit a baseline of 120 may be of your choosing.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

- BIOL 300-799 (at least two courses, both at 300 level or above)
- Quantitative Requirement (one course each in MATH and STAT)
- BS Arts, Humanities, and Social Sciences Restricted Electives
- Psychological Requirement

Pre-vet option

Students who complete the College of Arts and Sciences basic requirements, the preveterinary prerequisites, all the life science major requirements except the electives, and a minimum of 84 credit hours prior to enrolling in the College of Veterinary Medicine at K-State may earn a life science degree after successful completion of the first year of veterinary medical school.

WSU Nursing Pathways option

Students who complete the K-State CORE, College of Arts and Sciences restricted electives, the pre-nursing prerequisites, all the life science major requirements prior to enrolling in the WSU Nursing Pathway program specific to KSU students may earn a life science degree after successful completion of nursing school.

Additional Professional Option

Students who already hold a baccalaureate- or graduate-level health professional degree (e.g., nursing, dental hygiene, chiropractic, etc) may be allowed to transfer up to nine hours of upper-level health-related courses from the health professional school to the life science degree for elective credit. Such transfers must be approved by the Life Science Steering Committee.

Notes

*A minimum of 15 credit hours in the major must be taken at K-State. Only transfer courses accepted by departments to meet requirements in their majors will be accepted to meet requirements in the life science major.

To obtain a life science degree a student must earn a C or better in all courses (including transfer work) used to fulfill the Life Science Foundational Degree Requirements, Integrated Elective, and Major Elective Block.

The life science degree is not available to students who will earn a degree in biochemistry, biology, or microbiology.

Physical Science (BS)

The Physical Science Interdisciplinary major focuses primarily on the study of nonliving matter. It concerns itself with the theoretical and observable natural phenomena of our world and universe.

Cutting across a variety of Physical Science disciplines, it intentionally trades depth of learning for broader scope of inquiry. By offering more latitude in its curriculum design, it often allows students to prepare for less traditional or unique scientific ventures. It also occasionally serves as an undergraduate pathway to certain professional programs.

To best meet individual needs and interests, career goals and the requirements of the major, close cooperation with your advisor is highly recommended.

Students majoring in Physical Science must earn grades of C or better in all courses required for the major in the areas Physical Science Foundation, Physical Science Electives, and Senior Capstone, including transfer work applied to these areas.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (10 credit hours)

Orientation: (1 credit hour)

Outside Concentration: (9 credit hours)

Outside credential of at least 9 credit hours (May be from any unit, **except CHM, PHYS, GEOG, GEOL, etc**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for CHM, PHYS, GEOG, GEOL**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: ([9] credit hours)

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Physical Science Foundations: (31-35 credit hours)

Complete the following foundational requirements. Note that several requirements have options

Math Requirements: (8 credit hours)

MATH 220 and 221

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4

Chemistry Requirement: (8-10 credit hours)

Take either version of both Chemistry I and Chemistry II

- CHM 210 - Chemistry I **Credits:** 4
  OR
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
  OR
- CHM 250 - Honors Chemistry II **Credits:** 5

Physics Requirement: (8-10 credit hours)

Take either version of both Physics I and Physics II

- PHYS 113 - General Physics I **Credits:** 4
  OR
- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 114 - General Physics II **Credits:** 4
  OR
- PHYS 214 - Engineering Physics II **Credits:** 5

Physical Geography or Geology: (4 credit hours)

Physical Geography or Geology Requirement. Choose one combination of lecture and lab: GEOG 121 and 122 OR GEOL 100 and 103

Either both of the following Physical Geography courses

- GEOG 121 - Introductory Physical Geography: Earth Systems Science **Credits:** 3
- GEOG 122 - Introduction to Physical Geography: Earth Systems Science Laboratory **Credits:** 1

OR both of the following Geology courses

- GEOL 100 - Earth in Action **Credits:** 3
- GEOL 103 - Geology Laboratory **Credits:** 1

Statistics Requirement: (3 credit hours)

Statistics Requirement--Choose one from the following list: STAT 225, 340, 410, OR 510

- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 410 - Probabilistic Systems Modeling **Credits:** 3
- STAT 510 - Introductory Probability and Statistics I **Credits:** 3

Physical Science Electives: (18 credit hours)

Select 18 credit hours from the following disciplines at 300+ level. 9 of the credits must come from CHM, GEOG, GEOL, PHYS.

CHM 300-799, GEOG 300-799, GEOL 300-799, PHYS 300-799, MATH 300-799, STAT 300-799, CIS 300-799

Senior Capstone: (1 credit hour)

Students will complete a senior report/capstone experience in DAS 499.

- DAS 499 - Physical Sciences Senior Report **Credits:** 1

BS Arts, Humanities, and Social Sciences Restricted Electives: (6 credit hours)

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses: (3 credit hours)

Non-Quantitative Social Science: Any social course that does NOT have a MATH or STAT prereq: (3 credit hours)

Any social science course that does NOT have a MATH or STAT prereq

Free Electives: (0-20 credit hours)

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Minor

Pre-Health Designations

Students interested in health professions are advised in the College of Arts and Sciences Dean's Office.

As careers in health professions continue to be plentiful, applicants to the health professional schools become more numerous and requirements for admission become more competitive. One of the universal requirements is a high grade point average (GPA). Therefore, after completing 24 or more semester hours at K-State, students with a K-State GPA below 3.0 will have their pre-health designation removed from their academic plan. It is necessary to have academic standards because most health professions

programs require a minimum GPA in order to apply. Only under rare circumstances is the GPA below 3.0. In order to be competitive, students should work to earn a GPA at or above 3.5.

Creating a competitive applicant profile takes time and includes more than academics. Therefore, students who are considering a health profession should consult with the appropriate health professions advisor in the College of Arts and Sciences Health Professions Advising Office early in their undergraduate career.

Advising is available for the following health careers:

Programs:

- Pre-chiropractic
- Pre-dentistry
- Pre-health information management
- Pre-medicine
- Pre-nursing
- Pre-occupational therapy
- Pre-optometry
- Pre-pharmacy
- Pre-physical therapy
- Pre-physician assistant
- Pre-respiratory care
- Pre-veterinary medicine
- Medical Laboratory Science BA or BS

Completing pre-health prerequisites prepares students to make application to health professional schools. It does not result in the completion of a degree, with the exception of Medical Laboratory Science.

Students interested in Athletic Training, Dietetics, Communications Sciences and Disorders, or Kinesiology may prepare for these careers through the College of Health and Human Sciences.

Students are encouraged to contact the Career Center to obtain additional information about health careers and to explore the majors offered at K-State.

Helpful Links

- Explore Health Careers
- Health Professions Advisors

For additional information contact:
Health Professions Advising Office
College of Arts and Sciences
Kansas State University
107 Calvin Hall
Manhattan, KS 66506
785-532-6904

Secondary Major

International Studies Secondary Major

Kathleen Antonioli, Director
108 Eisenhower Hall

785-532-6760
E-mail: ias@k-state.edu
www.k-state.edu/ias

The international studies program promotes understanding of the international community. The program encourages a substantial distribution of foreign and international course work under the direct, personal guidance of an interdisciplinary faculty committee. Students must enroll in another major before taking international studies as a secondary major.

General requirements

The BS program is obtained by following the curriculum of the College of Arts and Sciences.

Students who complete the secondary major in international studies are expected to include the following within their areas of knowledge or competency: speaking capability in a foreign language; basic geographic knowledge of the world; ability to understand and analyze cultures other than their own; some understanding of developmental processes; some understanding of international relations and processes of interaction; and some integration of their program of study into a meaningful and coherent whole. Please check the website for any program changes or announcements.

I. Language requirement

Students must complete the equivalent of four semesters of a modern foreign language.

Students must also complete 24 credit hours of course work, distributed as follows:

II. Core

During the senior year, the student will write a research paper or complete a project on an international topic. The research may be an honors thesis or design project in one of the participating colleges or it may involve independent study. Students may enroll in DAS 425 (effective Fall 2018) or in an approved alternative course. In all cases, the student must have the permission of a faculty member to supervise and evaluate the work. All students enrolled in Senior Research in International Studies must have their topics approved by the director of the secondary major in international studies.

Geographic knowledge

- GEOG 100 - World Geography & Globalization **Credits:** 3

Cultural understanding

- ANTH 200 - Introduction to Cultural Anthropology **Credits:** 3
  or
- ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3
  or
- ANTH 210 - Introduction to Cultural Anthropology, Honors **Credits:** 3

International relations

At least one course marked with an asterisk in the approved course list found on the website.

Program integration

- DAS 525 - Senior Research in International Studies **Credits:** 3
  or approved alternative

II. Electives

The remaining 12 credit hours may be taken from the approved course listing. No more than 6 elective credit hours may be applied from a single discipline, and no more than 6 credit hours may be counted toward both a secondary major in an area studies program and in international studies. Students are encouraged to take courses in more than one college and are required to consult with the international studies director on the design and coherence of their international studies program.

Courses approved for the secondary major in international studies are found on the website. The website listing is revised each semester as new courses are added and changed and hers are removed from the curriculum.

Please note that other international studies courses are offered as ‘‘special studies,’’ ‘‘topics,’’ ‘‘problems,’’ or ‘‘seminar’’ categories. Intersession offerings may sometimes be acceptable. Transfer credits from approved study abroad programs, or other institutions, may be accepted as part of the student’s program of study.

Elective offerings

Courses are generally available in the following fields:

Agriculture
Anthropology
Architecture, Planning and Design
Art
Communication Studies
Economics
Education
English
Finance
Gender, Women, and Sexuality Studies
Geography
History
Human Ecology
Modern Languages
Political Science
Sociology

Please see website for a current list of courses.

Total credit hours required for graduation: (124)

Latin American Studies Secondary Major

Kathleen Antonioli, Director
108 Eisenhower Hall
785-532-6760
E-mail: ias@k-state.edu
www.k-state.edu/ias

The secondary major in Latin American studies provides opportunities for students to examine issues related to Latin America from a variety of perspectives. This interdisciplinary approach is designed to help students understand the systematic nature of political, socioeconomic, technological, and environmental problems in Latin America and the value systems of the people involved.

The program allows students to work with specialists in the humanities and social sciences, and to benefit from the expertise and experience of scientists and engineers who are engaged in research or development projects related to Latin America. Students who complete the secondary major will be qualified to pursue graduate work in Latin American studies. The curriculum will enhance student qualifications for employment in research, economic development, social action, trade, and diplomacy related to Latin America.

A student from any college may choose the secondary major in Latin American studies to complement course work in his or her major. Many courses may simultaneously meet the student's own college or major degree requirements. In this way, electives and required courses within a college curriculum may count toward the secondary major in Latin American studies.

Please note that other Latin American studies courses are offered as "special studies," "topics," "problems," or "seminar" categories." Intersession offerings may sometimes be acceptable. Transfer credits from approved study abroad programs, or other institutions, may be accepted as part of a student's program of study. Please check the website for any program changes or announcements.

General requirements for undergraduate major

A total of 124 credit hours are required for graduation. The BS program is obtained by following the curriculum of the College of Arts and Sciences.

Courses approved for the secondary major in Latin American studies are found on the website. The website listing is revised each semester as new courses are added or changed and others are removed from the university curriculum.

I. Language requirement

Students must complete Spanish IV or its equivalent, or demonstrate more advanced competence in Spanish or Portuguese.

II. Area courses

Students must complete 21 credit hours of area courses, including Senior Research. Courses must be taken in a minimum of four departments, with no more than 9 credit hours in any one department.

Courses are generally available in the following disciplines:

- Anthropology
- Geography
- History
- Modern languages
- Political science
- Sociology

Senior research

During the senior year, the student will write a research paper or complete a project on a Latin American studies topic. The research may be an honors thesis or design project in one of the participating colleges or it may involve independent study.

Students may enroll in DAS 407 or in an approved alternative course. In all cases, the student must have the permission of a faculty member to supervise and evaluate the work. All students enrolled in Senior Research in Latin American Studies must have their topics approved by the director of the secondary major in Latin American studies.

- DAS 507 - Senior Research in Latin American Studies **Credits:** 3

Total hours required for graduation (124 credit hours)

Natural Resources and Environmental Sciences Secondary Major

Shawn Hutchison, Interim Director
118 Seaton Hall
785-532-6727
www.k-state.edu/nres

The natural resources and environmental sciences secondary major prepares students to apply broadly-based scientific knowledge to the use, management, sustainability, and quality of soil, air, water, mineral, biological, and energy resources. The NRES program offers a timely and relevant academic emphasis to broaden the environmental perspective students receive in their primary major.

Government, corporate, and public concerns about natural resource and environmental issues abound. These concerns translate into career opportunities for individuals with interdisciplinary training on how humanity affects global functions.

Because natural resource and environmental issues tend to be so extensive and complex, they exceed the scope of any single discipline. Students in the NRES secondary major study environmental issues from a wide base of academic viewpoints. Involvement with students and professors from other disciplines adds skills typically required in environmental careers.

Enroll by appointment with the director or by electronic form on the webpage.

Major degree requirements

I. Entry requirements

Students must successfully complete the following courses to become eligible to pursue the NRES secondary major. One course in the entry or block elective requirements must qualify as a life science course.

a. Four basic science courses (or their more advanced equivalent)

- CHM 110 - General Chemistry **Credits:** 3
  and
- CHM 111 - General Chemistry Laboratory **Credits:** 1
  or
- CHM 210 - Chemistry I **Credits:** 4
- MATH 100 - College Algebra **Credits:** 3

Choose one from the following:

- PHYS 101 - The Physical World **Credits:** 3
  and

- PHYS 103 - The Physical World Laboratory **Credits:** 1
  or
- PHYS 113 - General Physics I **Credits:** 4
  or
- PHYS 115 - Descriptive Physics **Credits:** 5

Choose one from the following:

- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3

b. Two of the following basic NRES courses

These courses must be from different departments and total a minimum of 6 credit hours. Courses used to meet this requirement may not be used to meet NRES block elective requirements.

- AGRON 205 - Soils **Credits:** 3
- AGRON 335 - Environmental Quality **Credits:** 3
- BIOL 198 - Principles of Biology **Credits:** 4
- GEOG 121 - Introductory Physical Geography: Earth Systems Science **Credits:** 3
- GEOG 340 - Natural Resources **Credits:** 3
- GEOL 100 - Earth in Action **Credits:** 3
- GEOL 105 - Oceanography **Credits:** 3
- GEOL 115 - Environmental Geology **Credits:** 3
- GEOL 125 - Natural Disasters **Credits:** 3
- PMC 275 - Introduction to Natural Resource Management **Credits:** 3

c. One life science course

- AGRON 120 - Crop Science **Credits:** 3
- ANTH 280 - Introduction to Biological Anthropology **Credits:** 4
- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
- BIOCH 521 - General Biochemistry **Credits:** 3
- BIOCH 700-799
- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 221 - Organismic Biology **Credits:** 5
- BIOL 263 - Ecology of Environmental Problems **Credits:** 3
- BIOL 330 - Public Health Biology **Credits:** 3
- BIOL 441 - Human Body I **Credits:** 4
- BIOL 333 - Introduction to Fisheries, Wildlife, Conservation and Environmental Biology **Credits:** 3
- BIOL 255 - General Microbiology **Credits:** 4
- BIOL 500-799
- HORT 201 - Principles of Horticultural Science **Credits:** 4
- GEOL 650 - Geomicrobiology **Credits:** 3
  This course may be used to meet other requirements

II. Block elective requirements

From the following lists, students must successfully complete a minimum of 5 courses (15 credit hours minimum) from at least four departments. One course must be taken from each of the designated areas (natural, applied, and social sciences/humanities), two courses must be numbered 500 or greater, and three courses must have a prerequisite. These lists are continuously being revised, See the director for the most recent version.

Natural science courses

- AGRON 205 - Soils **Credits:** 3
- AGRON 665 - Soil Genesis and Classification **Credits:** 3
- BIOL 333 - Introduction to Fisheries, Wildlife, Conservation and Environmental Biology **Credits:** 3
- BIOL 529 - Ecology **Credits:** 3
- BIOL 612 - Freshwater Ecology **Credits:** 4
- BIOL 642 - Principles of Conservation Biology **Credits:** 3
- BIOL 687 - Microbial Ecology **Credits:** 3
- CHM 315 - Environmental Science: A Chemistry Perspective **Credits:** 3
- CHM 316 - Environmental Science: A Chemistry Perspective Laboratory **Credits:** 1
- ENTOM 101 - Insects and People **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- ENTOM 692 - Insect Ecology **Credits:** 3
- GEOG 235 - Atmospheric Science **Credits:** 4
- GEOG 535 - Global Climatology and Climate Change **Credits:** 4
- GEOG 740 - Fluvial Geomorphology **Credits:** 3
- GEOL 305 - Sustainable Earth Resources **Credits:** 3
- GEOL 399 - Honors Seminar in Geology **Credits:** 1-3
- GEOL 506 - Environmental Studies **Credits:** 3
- GEOL 315 - Geology of the National Parks **Credits:** 3
- GEOL 520 - Geomorphology **Credits:** 3
- GEOL 540 - Geologic Record of Climate Change **Credits:** 3
- GEOL 611 - Hydrogeology **Credits:** 3
- GEOL 711 - Water Resources Geochemistry **Credits:** 3

Applied science and technology courses

- AGRON 330 - Weed Science **Credits:** 3
- AGRON 335 - Environmental Quality **Credits:** 3
- AGRON 375 - Nutrient Cycling and Fertilizer Management **Credits:** 3
- AGRON 251 - Range Management **Credits:** 3
- AGRON 635 - Soil and Water Conservation **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AGRON 646 - Soil Microbiology Laboratory **Credits:** 1
- AGRON 655 - Site Specific Agriculture **Credits:** 3
- AGRON 746 - Environmental Soil Physics **Credits:** 3
- ATM 558 - Hydrology and Soil Erosion Management **Credits:** 3
- ATM 653 - Water Management and Irrigation Systems **Credits:** 2

- ATM 661 - Watershed Assessment and Management **Credits:** 3
- BAE 560 - Hydrology for Biological Systems **Credits:** 3
- BAE 620 - Topics in Biological Systems Engineering **Credits:** 1-18
- BAE 643 - Life Cycle Assessment **Credits:** 3
- BAE 651 - Air Pollution Engineering **Credits:** 3
- BAE 660 - Hydraulic Transport in Biological Systems **Credits:** 3
- BAE 664 - Green Stormwater Infrastructure Design and Assessment **Credits:** 3
- BAE 768 - Geoenvironmental Engineering Design **Credits:** 3
- BIOL 263 - Ecology of Environmental Problems **Credits:** 3
- BIOL 684 - Wildlife Management and Techniques **Credits:** 4
- BIOL 696 - Fisheries Management and Techniques **Credits:** 4
- CE 550 - Water Resources Engineering **Credits:** 3
- CE 552 - Hydraulic Engineering **Credits:** 3
- CE 563 - Environmental Engineering Fundamentals **Credits:** 3
- CE 565 - Water and Wastewater Engineering **Credits:** 3
- CE 625 - Principles of Geoenvironmental Engineering **Credits:** 3
- CE 654 - Design of Groundwater Flow Systems **Credits:** 3
- CE 766 - Wastewater Engineering: Biological Processes **Credits:** 3
- CE 768 - Geoenvironmental Engineering Design **Credits:** 3
- CHE 650 - Hazardous Waste Engineering Seminar **Credits:** 1
- CHE 670 - Sustainability Seminar **Credits:** 1
- CHE 715 - Biochemical Engineering **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- GEOG 605 - Remote Sensing of the Environment **Credits:** 3
- GEOL 745 - Exploration Geophysics **Credits:** 3
- GEOL 731 - Petroleum Geology **Credits:** 3
- LAR 420 - Socio-Ecological Systems Studio **Credits:** 5
- LAR 734 - Rivers: Processes & Forms **Credits:** 3
- PMC 575 - Water Management for Natural Resource Managers **Credits:** 3
- PMC 635 - Methods of Environmental Interpretation **Credits:** 3
- PMC 740 - Advanced Environmental Interpretation **Credits:** 3

Social sciences/humanities courses

- AGCOM 712 - Environmental Communication **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGEC 610 - Current Agriculture and Natural Resource Policy Issues **Credits:** 3
- ANTH 260 - Introduction to Archeology **Credits:** 3
- ANTH 310 - Environmental Anthropology: Living with Change in the Anthropocene **Credits:** 3
- AT/ID 350 - Our Sustainable World: Current Challenges and Future Opportunities **Credits:** 3
- ECON 527 - Environmental Economics **Credits:** 3
- ENGL 270 - American Literature **Credits:** 3
- ENGL 399 - Honors Seminar in English **Credits:** 1-3
- ENGL 680 - Topics in American Literature **Credits:** 3
- GENAG 670 - Introduction to Agricultural Resources and Environmental Management **Credits:** 2
- GEOG 340 - Natural Resources **Credits:** 3

- GEOG 360 - Sustainability Concepts & Issues **Credits:** 3
- GEOG 460 - Human Dimensions of Global Change **Credits:** 3
- GEOG 600 - Mountain Geography **Credits:** 3
- GEOG 718 - Geography of Public Lands **Credits:** 3
- GEOG 720 - Geography of Land Use **Credits:** 3
- GEOG 725 - Geography of Water Resources **Credits:** 3
- GEOG 761 - Human Impact on the Environment **Credits:** 3
- GEOG 765 - Geography of Natural Hazards **Credits:** 3
- GEOG 770 - Perception of the Environment **Credits:** 3
- GWSS 480 - Seminar in Gender, Environment and Justice **Credits:** 3
- HIST 511 - Environmental History **Credits:** 3
- HIST 557 - History of American Agriculture **Credits:** 3
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- LAR 646 - Community Engagement Studio **Credits:** 5
- MC 712 - Environmental Communications **Credits:** 3
- PHILO 595 - Environmental Ethics **Credits:** 3
- PLAN 115 - Introduction to Regional and Community Planning **Credits:** 3
- SOCIO 536 - Society and Natural Resources **Credits:** 3

III. Capstone course requirement

All students must successfully complete the NRES capstone course. This course should be scheduled during the senior year.

Choose one from the following:

- BAE 582 - Natural Resources/Environmental Sciences Project (NRES) **Credits:** 3
- DAS 582 - Natural Resources Environmental Sciences Project **Credits:** 3
- GENAG 582 - Natural Resources/Environmental Science Project (NRES) **Credits:** 3

Undergraduate Certificate

Nonviolence Studies Undergraduate Certificate

To earn the Certificate in Nonviolence Studies (NVS), students will examine violence and nonviolence within a holistic context. Students will look at social justice issues as they relate to individuals, the community, and the world. Students will take a comprehensive and far-reaching view of issues as they exist within the context of the culture and the world that surrounds them--as they exist through time and within a continuum that includes the precursors that lead to actual physical violence. They will imagine ways to apply nonviolence methodology to achieve better "cultural and social health" similarly to the way "public health" officials apply a preventative, contextual model.

Upon completion of an undergraduate certificate in nonviolence studies, student will be able to demonstrate their understanding of:

- systems theory
- the differences between a mechanistic and organic worldview
- basic anthropological perspectives and concepts of holism
- history and theories of past and current nonviolence movements, including major writers
- their positionality in the social order and in what ways their life choices make a difference

their ability to apply:

- the concepts and methodologies of nonviolent resistance and direct action
- holistic thinking to human issues ranging from local to global
- the basic skills of conflict resolution, mediation, and arbitration
- critical thinking to real-world issues

General requirements

Course requirements (6 credit hours)

- DAS 355 - Introduction to Nonviolence Studies **Credits:** 3

And One Capstone class:

- DAS 455 - Violence, Nonviolence and Social Change **Credits:** 3
  or
- DAS 590 - Applied Nonviolence **Credits:** 3

Electives (9 credit hours)

Selected from a list of courses that have been approved by Arts and Sciences Dean in past:

- ANTH 200 - Introduction to Cultural Anthropology **Credits:** 3
- CNRES 531 - Interpersonal Conflict Resolution **Credits:** 3
- CNRES 532 - Conflict Resolution across Cultures & Contexts **Credits:** 3
- CNRES 533 - Prevention & Intervention of Violence **Credits:** 3
- COMM 130 - Interpersonal Communication **Credits:** 3
- COMM 480 - Intercultural Communication **Credits:** 3
- DANCE 325 - Ballet II **Credits:** 2 (Anatomy for Dancers)
- EDCEP 311 - Interaction and Guidance for the Paraprofessional **Credits:** 3 (Proactive Educators for the Elimination of Rape and Sexual Violence)
- HDFS 700 - Problems in Human Development and Family Science **Credits:** 1-6 (Peace and Conflict)
- GWSS 105 - Introduction to Gender, Women, and Sexuality Studies **Credits:** 3
- GWSS 380 - Global Struggles for Feminist, Queer, and Trans Justice **Credits:** 3
- GWSS 480 - Seminar in Gender, Environment and Justice **Credits:** 3 (Women and Environmentalism)
- GWSS 700 - Advanced Topics in Gender, Women, and Sexuality Studies **Credits:** 1-3 (Independent Study in Nonviolence Studies)
- IARC 391 - Topics in Contemporary Design Seminar **Credits:** 3
- LEAD 502 - Independent Study in Leadership Studies **Credits:** 0-3 (International Community Service Seminar)
- SOCIO 363 - Global Problems **Credits:** 3
- SOCIO 500 - Sociological Perspectives on Contemporary Issues **Credits:** 1-3 (Human Trafficking)
- SOCIO 507 - International Development and Social Change **Credits:** 3
- SOCIO 423 - Methods of Social Research I **Credits:** 4
- SOCIO 545 - The Sociology of Women **Credits:** 3
- SOCIO 633 - Gender, Power, and Development **Credits:** 3
- SOCIO 635 - Sociology of Human Trafficking **Credits:** 3

- SOCWK 100 - Social Work: The Helping Profession **Credits:** 3
- SOCWK 568 - Macro Practice and Theory **Credits:** 3
- THTRE 664 - Creative Drama **Credits:** 3
- THTRE 665 - Drama Therapy with Special Populations **Credits:** 3

Total credit hours: (15)

Other Program Choices

Environmental Science (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
CHM 110 - General Chemistry	3	**KSC 040**
CHM 111 - General Chemistry Laboratory	1	**KSC 040**
ENGL 100 - Expository Writing I	3	**KSC 010**
ENSCI 101 - Introduction Environmental Sciences	1	
GEOG 121 - Introductory Physical Geography: Earth Systems Science	3	
GEOG 122 - Introduction to Physical Geography: Earth Systems Science Laboratory	1	
DAS 101 Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 13		
Semester 2		
BIOL 198 - Principles of Biology	4	
COMM 106 - Public Speaking I	3	**KSC 020**
GEOL 115 - Environmental Geology	3	
GEOL 103 - Geology Laboratory	1	
Social & Behavioral Sciences Requirement (ECON 110 or 120 Recommended)	3	**KSC 050**
Total Credits: 14		

Second Year		
Semester 1		
AGRON 205 - Soils	3	
AGRON 206 - Soils Laboratory	1	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 205 - General Calculus	3	**KSC 030**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
GEOG 370 - Environmental Justice	3	
Total Credits: 16		
Semester 2		
GEOG 508 - Geographic Information Systems I	4	
PHYS 101 - The Physical World	3	
PHYS 103 - The Physical World Laboratory	1	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Atmosphere focused course	3	
Total Credits: 14		
Third Year		
Semester 1		
ANTH 310 - Environmental Anthropology: Living with Change in the Anthropocene	3	
Hydrosphere focused course	3	
STAT 225 - Introduction to Statistics	3	
SOCIO 536 - Society and Natural Resources	3	

Environmental Science Specialization Course	3	
Total Credits: 15		
Semester 2		
GEOG 445 - Biogeography **OR**	3	
Biosphere focused course	3	
Arts & Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Outside Concentration Course	3	
Environmental Science Specialization Course	3	
Total Credits: 15		
Semester 3		
ENSCI 410 - Environmental Sciences Internship	3	
Total Credits: 3		
Fourth Year		
Semester 1		
PHILO 595 -Environmental Ethics	3	
GEOG 440 - Spatial Analysis of Surface Water Hydrology **OR**	3	
Geosphere focused course	3	
Environmental Science Specialization Course	3	
Environmental Science Specialization Course	3	
Outside Concentration Course	3	
Total Credits: 15		

Semester 2			
DAS 582 - Natural Resources Environmental Sciences Project	3		
Outside Concentration Course	3		
Environmental Science Specialization Course	3		
Arts & Humanities Requirement	3	**KSC 060**	
GEOG 460 - Human Dimensions of Global Change **OR**	3		
Humans and the Environment, Human-Environment Interactions Course List	3		
Total Credits: 15			
Total Program Hours: 120			

Integrated Computer Science (BA) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
CC 110 - Introduction to Computing	2		
CC 111 - Elements of Computer Programming	1		
Modern Language - 1	4		
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
Total Credits: 14			
Semester 2			
ENGL 200 - Expository Writing II	3	**KSC 010**	

Natural & Physical Sciences Requirement	4	**KSC 040**	
CC 210 - Fundamental Computer Programming Concepts	4		
Modern Language - 2	4		
Total Credits: 15			
Second Year			
Semester 1			
COMM 106 - Public Speaking I	3	**KSC 020**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
CC 120 - Web Page Development	3		
CC 310 - Data Structures and Algorithms I	3		
Modern Language - 3	3		
Total Credits: 15			
Semester 2			
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Arts & Humanities Requirement	3	**KSC 060**	
CC 410 - Advanced Programming	4		
PHILO 386 - Philosophy of Computer Science and Software Engineering	3		
Modern Language - 4	3		
Total Credits: 16			
Third Year			
Semester 1			
Arts & Humanities Requirement	3	**KSC 060**	

Free Elective {Institutionally Designated Area}	3	**KSC 070**	
CC 510 - Computer Systems Administration	3		
Cultural Impacts of Technology - Integration Elective	3		
Concentration Course	3		
Total Credits: 15			
Semester 2			
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
CC 515 - Full Stack Web Development	3		
Digital Arts & Humanities - Integration Elective	3		
Concentration Course	3		
Concentration Course	3		
Total Credits: 15			
Fourth Year			
Semster 1			
CC 535 - Applied Data Science	3		
Integration Elective	3		
Concentration Course	3		
Concentration Course	3		
B.A. Fine Arts	3		
Total Credits: 15			
Semester 2			
CC 520 - Database Essentials	3		

Concentration Course	3		
B.A. Non-Quantitative Social Science	3		
Elective	5		
DAS 496 - Integrated Computer Science Capstone 1			
Total Credits: 15			
Total Program Hours: 120			

Integrated Computer Science (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
CC 110 - Introduction to Computing	2		
CC 111 - Elements of Computer Programming	1		
BS Natural Science	3		
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
Total Credits: 16			
Semester 2			
ENGL 200 - Expository Writing II	3	**KSC 010**	
Natural & Physical Sciences Requirement	4	**KSC 040**	
CC 210 - Fundamental Computer Programming Concepts	4		
Concentration Course	3		

Total Credits: 14		
Second Year		
Semester 1		
COMM 106 - Public Speaking I	3	**KSC 020**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
CC 120 - Web Page Development	3	
CC 310 - Data Structures and Algorithms I	3	
Total Credits: 15		
Semester 2		
Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
CC 410 - Advanced Programming	4	
PHILO 386 - Philosophy of Computer Science and Software Engineering	3	
Cultural Impacts of Technology - Integration Elective	3	
Total Credits: 16		
Third Year		
Semester 1		
Free Elective {Institutionally Designated Area}	3	**KSC 070**
CC 510 - Computer Systems Administration	3	
Digital Arts & Humanities - Integration Elective	3	
Concentration Course	3	

Elective	3		
Total Credits: 15			
Semester 2			
CC 515 - Full Stack Web Development	3		
Concentration Course	3		
BS Non-Quantitative Social Science	3		
Elective	3		
Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
CC 535 - Applied Data Science	3		
Integration Elective	3		
Concentration Course	3		
Concentration Course	3		
Elective	3		
Total Credits: 15			
Semester 2			
CC 520 - Database Essentials	3		
Concentration Course	3		
Elective	3		
Elective	4		

DAS 496 - Integrated Computer Science Capstone	1		
Total Credits: 14			
Total Program Hours: 120			

Life Science (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
Free Elective {Institutionally Designated Area}	4	**KSC 070**	
BIOL 198 -Principles of Biology	3	**KSC 040**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
PSYCH 110 - General Psychology	3		
Total Credits: 17			
Semester 2			
PHYS 113 -General Physics I **OR**	4		
Free Elective (if PHYS 113 is not needed)	4		
ART 103 - Jewelry Design and Processes for Non-majors	3	**KSC 060**	
CHM 210 - Chemistry I	4		
ENGL 200 - Expository Writing II	3	**KSC 010**	
SOCIO 211 - Introduction to Sociology	3		
Total Credits: 17			

Second Year		
Semester 1		
AMETH 160 - Introduction to American Ethnic Studies	3	**KSC 050**
COMM 106 - Public Speaking I	3	**KSC 020**
GWSS 105 - Introduction to Gender, Women, and Sexuality Studies	3	**KSC 050**
BIOL 255 - General Microbiology	4	
CHM 230 - Chemistry II	4	
Total Credits: 17		
Semester 2		
BIOL 398 - Principles of Genetics	4	
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
ENGL 253 - Short Story	3	**KSC 060**
ANTH 204 - A General Education Introduction to Cultural Anthropology	3	
Total Credits: 15		
Third Year		
Semester 1		
Outside Concentration	3	
BIOCH 521 - General Biochemistry	3	
PHILO 365 -Medical Ethics	3	
BIOL 441 - Human Body I	4	
PSYCH 505 -Introduction to Psychopathology	3	
Total Credits: 15		

Semester 2			
Outside Concentration	3		
Free Elective	2		
STAT 225 -Introduction to Statistics	3		
BIOL 442 - Human Body II	4		
AMETH 351 - African American Perspectives	3		
Total Credits: 15			
Fourth Year			
Semester 1			
Outside Concentration	3		
ANTH 280 - Introduction to Biological Anthropology	4		
ANTH 383 -Plagues: The Co-Evolutionary History of Humans and Pathogens	3		
DAS 400 -Undergraduate Research in Arts and Sciences	0-3		
THTRE 665 - Drama Therapy with Special Populations	3		
Total Credits: 14			
Semester 2			
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Free Elective	3		
PSYCH 520 - Life Span Personality Development	3		
PSYCH 556 -Multicultural Psychology	3		
Total Credits: 12			

Total Program Hours: 120		

Medical Laboratory Science (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
BIOL 198 - Principles of Biology	4	**KSC 040**
MATH 205 - General Calculus	3	**KSC 030**
PSYCH 110 - General Psychology	3	**KSC 050**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 14		
Semester 2		
ENGL 200 - Expository Writing II	3	**KSC 010**
CHM 210 - Chemistry I	4	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
ANTH 204 - A General Education Introduction to Cultural Anthropology	3	**KSC 050**
Fine Arts - A&S BS req	3	
Total Credits: 16		
Second Year		
Semester 1		
COMM 106 - Public Speaking I	3	**KSC 020**
Arts & Humanities Requirement	3	**KSC 060**

CHM 210 - Chemistry 2	4	
BIOL 255 - General Microbiology	4	
Total Credits: 14		
Semester 2		
Arts & Humanities Requirement	3	**KSC 060**
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
BIOL 441 - Human Body I	4	
Natural & Physical Sciences Requirement	4	
Total Credits: 16		
Third Year		
Semester 1		
Free Elective - US Multicultural Overlay	3	
BIOL 442 - Human Body II	4	
BIOL 398 - Principles of Genetics	4	
BIOCH 521 - General Biochemistry	3	
Total Credits: 14		
Semester 2		
BIOL 670 - Immunology	3	
BIOL 541 - Cell Biology **OR**	3	
Other Major Elective		
Free Elective {Institutionally Designated Area}	3	**KSC 070**

STAT 225 - Introduction to Statistics	3	
Non-Quantative Social Science Requirement	3	
Total Credits: 16		
Fourth Year		
Semester 1		
DAS 501 - Health Science Clinical Training	3-12	
Total Credits: 12		
Semester 2		
DAS 501 - Health Science Clinical Training	3-12	
Total Credits: 12		
Semester 3		
DAS 501 - Health Science Clinical Training	3-12	
Total Credits: 6		
Total Program Hours: 120		

Physical Science (BA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
DAS 101 -Discover, Create, and Thrive: Arts and Sciences Orientation	1	

MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Natural & Physical Sciences Requirement	4	**KSC 040**
First Semester Language	4	
Total Credits: 16		
Semester 2		
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 221 - Analytic Geometry and Calculus II	4	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Second Semester Language	4	
Total Credits: 17		
Second Year		
Semester 1		
COMM 106 - Public Speaking I	3	**KSC 020**
Social & Behavioral Sciences Requirement	3	**KSC 050**
PHYS 113 - General Physics I	4	
Arts & Humanities Requirement	3	**KSC 060**
Third Semester Language	3	
Total Credits: 16		
Semester 2		
PHYS 114 - General Physics II	4	
Outside Concentration	3	

Fourth Semester Language	3	
Arts & Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Third Year		
Semester 1		
CHM 210 - Chemistry I	4	
Outside Concentration	3	
GEOG 121 - Introductory Physical Geography: Earth Systems Science **AND**	3	
GEOG 122 - Introduction to Physical Geography: Earth Systems Science Laboratory **OR**	1	
GEOL 100 - Earth in Action **AND**	3	
GEOL 103 - Geology Laboratory	1	
Physical Science Elective - 300+ level	3	
Total Credits: 14		
Semester 2		
CHM 230 - Chemistry II	4	
Physical Science Elective	3	
Humanities	3	
STAT 225 - Introduction to Statistics **OR**	3	
STAT 240 - Biometrics I **OR**	3	
STAT 410 - Probabilistic Systems Modeling **OR**	3	
STAT 510 - Introductory Probability and Statistics I	3	
Free Elective	3	

Total Credits: 16		
Fourth Year		
Semester 1		
Outside Concentration	3	
Physical Science Elective	3	
Fine Arts	3	
Free Elective	3	
Total Credits: 12		
Semester 2		
DAS 499 - Physical Sciences Senior Report	1	
Physical Science Elective	3	
Social Science - Non-Quantitative Social Sciences BA	3	
Free Elective	3	
Free Elective	3	
Total Credits: 13		
Total Program Hours: 120		

Physical Science (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**

MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Arts & Humanities Requirement	3	**KSC 060**
GEOG 121 - Introductory Physical Geography: Earth Systems Science	3	
GEOG 122 - Introduction to Physical Geography: Earth Systems Science Laboratory	1	
GEOL 100 - Earth in Action	3	
GEOL 103 - Geology Laboratory	1	
Total Credits: 15		
Semester 2		
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 221 - Analytic Geometry and Calculus II	4	
Social & Behavioral Sciences Requirement	3	**KSC 050**
PHYS 113 - General Physics I	4	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 17		
Second Year		
Semester 1		
COMM 106 - Public Speaking I	3	**KSC 020**
Social & Behavioral Sciences Requirement	3	**KSC 050**
PHYS 114 - General Physics II	4	
STAT 225 - Introduction to Statistics	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		

Semester 2		
Arts & Humanities Requirement	3	**KSC 060**
CHM 210 - Chemistry I	4	
Outside Concentration	3	
Natural & Physical Sciences Requirement	4	**KSC 040**
Total Credits: 14		
Third Year		
Semester 1		
CHM 230 - Chemistry II	4	
Outside Concentration	3	
Physical Science Elective - 300+ Level	3	
Arts & Humanities BS Requirement	3	
Free Elective	3	
Total Credits: 16		
Semester 2		
Outside Concentration	3	
Physical Science Elective - 300+ Level	3	
Non-Quantitative Social Science BS Requirement	3	
Free Elective	3	
Total Credits: 12		
Fourth Year		

Semester 1			
Physical Science Elective - 300+ Level	3		
Physical Science Elective - 300+ Level	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
DAS 499 - Physical Sciences Senior Report	1		
Physical Science Elective - 300+ Level	3		
Physical Science Elective - 300+ Level	3		
Free Elective	3		
Free Elective	3		
Free Elective	2		
Total Credits: 15			
Total Program Hours: 120			

Aerospace Studies (Air Force ROTC)

Lieutenant Colonel Kristin Clinger , Head

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The Air Force Reserve Officer Training Corps provides the best means for undergraduate students to become officers in the United States Air Force. Upon completion of the university program, students are commissioned as second lieutenants, and then enter active duty in one of the four rated flying positions or a technical or nontechnical career field; are deferred for graduate

study, to enter active service after degree completion; or enter into Air Force-sponsored graduate study at full pay while serving as Air Force officers.

Any undergraduate student with at least five semesters left in their degree program and who is a U.S. citizen may apply to become a cadet by enrolling in both AERO 110 and AERO 099. The duration of the program is typically four years but can be condensed into three for students without prior military service. Students with prior military service can be condensed into two years. Program length depends on an applicant's previous experience and the availability of different options.

Members attending any K-State affiliated school or campus (KSU Polytechnic, etc.) are able attend and be part of the program. Additionally, members of affiliated schools may have a cross town agreement with K-State and can attend and be part of the program (Manhattan Christian College, Kansas Wesleyan University, etc.)

Scholarships

Full-time students who qualify to become Air Force officers, with five or more semesters left for degree completion (including graduate study), are eligible to apply for scholarships. If selected, students will have their tuition, fees, and book allowance paid for by the U.S. Air Force; they will also receive a $300 to $500 monthly stipend while in school. All payments are tax free.

High school students considering the Air Force ROTC High School Scholarship Program must be highly motivated toward becoming Air Force officers. To qualify, students should be above-average scholars, be physically capable, possess leadership potential, and apply before 31 January of their senior year. Financial benefits are the same as the undergraduate scholarships mentioned earlier. Applicants should contact their high school counselor or an AFROTC officer for applications and further information. Visit the website for more details.

Four-year program

Basic course

Students electing the four-year program normally will begin with the General Military Course during the freshman or sophomore year. This program consists of four courses of 1 credit hour each over a period of two or four semesters and enrollment in AERO 099. Aerospace Studies GMC courses are open to all students at the university without obligation to military service. Students in the GMC are provided uniforms, texts, and other equipment needed for their AFROTC courses.

Advanced course

The Professional Officer Course is the upperclass program and consists of four courses of 3 credit hours each, over a period of four semesters and enrollment in AERO 099. All cadets in the POC become members of the Air Force Reserve and receive $400 to $500 a month and all necessary AFROTC texts and equipment. Upon completion of the POC and their degree requirements, students are commissioned as second lieutenants in the United States Air Force.

Field training

Cadets practice their leadership and management skills in a Cadet Wing. Cadets who are in the four-year program attend 17 days of field training at an Air Force base during the summer prior to entering the POC. During training, cadets are paid and receive travel pay to and from the training base.

Extracurricular activities

Students enrolled in Air Force ROTC may participate in many activities including detachment-sponsored events and social functions. Cadets pursuing officers' commissions are eligible for membership in the Arnold Air Society, a national honorary

professional and service organization established to foster good relations among Air Force ROTC, the Air Force, the campus, and the local community. Participation in the Arnold Air Society is voluntary. Students are also eligible to participate in Honor Guard, a team that presents the colors at University and local community events.

Aerospace Studies Minor

The Aerospace Studies Minor is designed to enhance an individual's leadership skills by increasing the understanding of both current political issues and historical events that built modern societies. The courses enhance both leadership character traits and communication strategies. Primary application is for individuals who desire to become officers in the United States Air Force or Space Force. Secondary application is for any student desiring to grow in their understanding of military history and culture, while bolstering their personal leadership skills.

No more than six transferable credit hours may be used for this minor.

Required Courses: 12 credit hours

- AERO 310 - Officer Leadership Studies 3A **Credits:** 3
- AERO 311 - Officer Leadership Studies 3B **Credits:** 3
- AERO 410 - Regional Studies and Defense Policy **Credits:** 3
- AERO 411 - Aerospace Studies/Civil Military Relationships **Credits:** 3

History elective: 3 credit hours

Select one history course from the list below for 3 credit hours.

- HIST 155 - Introduction to US Military History **Credits:** 3
- HIST 301 - Topics in History **Credits:** 3
- HIST 510 - World War I **Credits:** 3
- HIST 513 - Battles and Leaders **Credits:** 3
- HIST 526 - The American Revolution **Credits:** 3
- HIST 529 - Civil War and Reconstruction **Credits:** 3
- HIST 545 - War in the Twentieth Century **Credits:** 3
- HIST 593 - The Vietnam War **Credits:** 3

General elective: 3 credit hours

Select one general elective course from the list below for 3 credit hours.

- COMM 311 - Business and Professional Speaking **Credits:** 3
- COMM 425 - Organizational Communication **Credits:** 3
- COMM 480 - Intercultural Communication **Credits:** 3
- LEAD 200 - Foundations of Leadership of Society **Credits:** 1-3
- LEAD 212 - Introduction to Leadership Concepts **Credits:** 2-3
- LEAD 320 - Theories of Leadership **Credits:** 3
- POLSC 343 - American Foreign Policy **Credits:** 3
- POLSC 390 - Middle East Politics **Credits:** 3

Total Hours Required for Minor: 18

Art

Shreepad Joglekar, The Lindy E. Bell Head of the Department of Art

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www.art.k-state.edu

Art education

Students Interested in teaching art in elementary or secondary schools should complete the Bachelor of Science in Education degree offered through the College of Education. This degree includes 45 credits of Studio Art courses.

Transfer students

Art courses transferred to K-State will be reviewed by the art department for application of appropriate credit. A detailed syllabus must be supplied.

Laptop Requirement:

All Art students are required to have a laptop or access to a laptop computer during their time as a student in the department. In general, the laptop needs to support the full Adobe Creative Cloud Suite subscription.

Specific technology requirements for Department majors in these areas of study

Photo area - Required hardware and software:

- Mac (preferred) or PC Laptop
- Screen Size: 14 inch and above
- At least 16GB unified memory
- At least 512 GB memory
- At least 1 portable hard drive: 500GB to 1TB for backup
- Adobe CreativeCloud Suite (Use "Students and Teachers" Pricing)
- DSLR/mirrorless camera with at least 1 lens: at least 24 megapixel or above, with full manual controls, RAW file and HD video capability
- Durable tripod (aluminum or carbon fiber)

Graphic design area - Required hardware and software:

Mac laptop, minimum 13 inch screen (Apple is the industry standard for graphic design); 14 inch, preferred

- Minimum Specifications: Apple Macbook Pro with 13 inch screen M1 Chip with 8-Core CPU and 8-Core GPU 256GB SSD Storage

- Dell XP13 or Microsoft Surface Book 3 laptops (not the surface tablet) are equivalent minimum Windows computer
- Complete Adobe Creative Cloud Suite, all applications (Use "Student and Teachers" Pricing)
- Cloud-based backup service and/or minimum 1TB backup drive

Bachelor of Arts

Art - Art History (BA)

The Art Department offers a BA degree with concentration areas in both Art History and Studio Art. Both degree concentrations require fulfillment of the College of Arts and Sciences requirements for the B.A. The Art B.A. requires core foundations in both Studio and Art History in addition to further study in one concentration. Students majoring in Art must earn a total of 120 credit hours for graduation.

The BA prepares students for graduate work and academic careers in a wide range of arts-related fields, including arts administration, cultural entrepreneurship, museum studies, arts, community development and other fields outside the arts that require expertise in art, problem-solving, and creative thinking.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 3 Credit Hours

- ART 105 - AandD: Career and Creative Industry Seminar **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except ART,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for ART) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC 030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

A&D Foundation Courses: 9 Credit Hours

- ART 174 - A and D: Mixed Media Process and Exploration Lab **Credits:** 3
- ART 180 - AandD: Color, Light, and Perception Lab **Credits:** 3
- ART 200 - AandD: Visual Representation and Fabrication **Credits:** 3

Art History Required Courses: 12 Credit Hours

- ART 195 - Survey of Western Art History I **Credits:** 3
- ART 196 - Survey of Western Art History II **Credits:** 3

20th Century Art History Courses:

Choose any two courses from the list below for a total of 6 credit hours,

- ART 545 - Twentieth Century Art History I: Post-Impressionism to Cubism **Credits:** 3
- ART 550 - Twentieth Century Art History II: Dada to Surrealism **Credits:** 3
- ART 602 - Twentieth Century Art History III: Abstract Expressionism to Pop Art **Credits:** 3
- ART 603 - Twentieth Century Art History IV: Conceptual Art to Contemporary Art **Credits:** 3

Art History Concentration Courses: 15 Credit Hours

Choose any five Art History Courses from the Department Approved List:

https://art.ksu.edu/academics/undergrad/AH_courses.html

Fulfils A&S Fine Arts BA Requirement

BA Arts, Humanities, and Social Sciences Requirement: 6 Credit Hours

3 credit hours in each of the following areas below, with at least 3 credit hours at 300 level or above **OR** at any level with a prerequisite in the same discipline.

One course in Humanities Course: 3 Credit Hours

One Non-Quantitative Social Science Course: 3 Credit Hours

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative Course: 3 Credit Hours

Natural Science, or Quantitative, or Social Science: 3 Credit Hours

with MATH or STAT

BA Second Language Requirement: 6 Credit Hours

Choose one of the following options below:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 11-21 Credit Hours

In addition to the K-State Core Free Electives requirement, take any course so that the total number of credit hours completed is 120.

Total Hours Required for Graduation: 120

Art - Studio Art (BA)

The Art Department offers a BA degree with concentration areas in both Art History and Studio Art. Both degree concentrations require fulfillment of the College of Arts and Sciences requirements for the B.A. The Art B.A. requires core foundations in both

Studio and Art History in addition to further study in one concentration. Students majoring in Art must earn a total of 120 credit hours for graduation.

The BA prepares students for graduate work and academic careers in a wide range of arts-related fields, including arts administration, cultural entrepreneurship, museum studies, arts, community development and other fields outside the arts that require expertise in art, problem-solving, and creative thinking.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- ART 105 - AandD: Career and Creative Industry Seminar **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except ART,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for ART) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC 030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

A&D Foundation Courses: 9 Credit Hours

- ART 174 - A and D: Mixed Media Process and Exploration Lab **Credits:** 3
- ART 180 - AandD: Color, Light, and Perception Lab **Credits:** 3
- ART 200 - AandD: Visual Representation and Fabrication **Credits:** 3

Art History Required Courses: 12 Credit Hours

- ART 195 - Survey of Western Art History I **Credits:** 3
- ART 196 - Survey of Western Art History II **Credits:** 3

20th Century Art History Courses:

Choose any two courses from the list below for a total of 6 credit hours.

- ART 545 - Twentieth Century Art History I: Post-Impressionism to Cubism **Credits:** 3
- ART 550 - Twentieth Century Art History II: Dada to Surrealism **Credits:** 3
- ART 602 - Twentieth Century Art History III: Abstract Expressionism to Pop Art **Credits:** 3
- ART 603 - Twentieth Century Art History IV: Conceptual Art to Contemporary Art **Credits:** 3

Studio Art Concentration Courses: 15 Credit Hours

Choose any five Studio Art Courses from Department approved list https://art.ksu.edu/academics/undergrad/Studio_courses.html

Fulfils A&S Fine Arts BA Requirement

BA Arts, Humanities, and Social Sciences Requirement: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Course: 3 Credit Hours

One Non-Quantitative Social Science; Any Social Course: 3 Credit Hours

Choose a course from this category that does NOT have a MATH or STAT prereq

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science Course: 3 Credit Hours

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following options below:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 12-25 Credit Hours

In addition to the K-State Core Free Electives requirement, take any course so that the total number of credit hours completed is 120.

Total Hours Required for Graduation: 120

Bachelor of Fine Arts

Art - Studio Art (BFA)

The Bachelor of Fine Arts degree is a professionally oriented undergraduate degree in art or design. It is designed primarily for those planning to become professional artists, artist-teachers, or visual communication designers. Greater emphasis is placed on actual practice in the creative art disciplines.

The BFA in Art is a 4-year, 120-credit hour program with concentrations possible in Studio Art or Visual Communication Design. Areas of focus within the Studio Art BFA include Ceramics, Drawing, Metalsmithing and Jewelry, Painting, Photography and Printmaking. The BFA degree is considered the appropriate preparation for the Master of Fine Arts degree, which is recognized as the terminal degree in Studio Arts and Visual Communication Design. The BA and BFA can also be used as preparation for:

- Master of Fine Arts Degree in Studio Arts or Visual Communication Design
- A career as a Professional Artist, Professional Photographer, or Professional Visual Communication Designer
- A Master's degree in Art Therapy when a portfolio of artwork is presented and additional coursework, generally consisting of 12-credit hours in Psychology is completed. Required Psychology credits commonly include Developmental and Abnormal Psychology. Requirements for admission may include other preliminary coursework as defined by individual graduate programs. Potential candidates should contact programs directly for admission requirements.
- A Master's degree in Artistic and Historic Conservation. North American Education programs offer a Master's degree in Conservation or Historic Preservation as well as Master's degrees in related disciplines, along with a certificate or diploma in Conservation. Many graduate programs in Conservation of Cultural Property require preliminary coursework that commonly includes one year of General Chemistry and one year of Organic Chemistry, courses in the humanities such as Art History, Anthropology, Architecture, and Archeology, and coursework in Studio Art. Many programs also require a portfolio of art. Potential candidates should contact programs directly for Admission requirements.

NOTE: Students interested in teaching art in elementary or secondary schools should complete the Bachelor of Science in Education degree offered through the College of Education. This degree includes the Art (EDART) Teacher Licensure Program and 42-credit hours of studio art courses.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation - 1 Credit Hour

Introduction to art concentrations and professions.

- ART 105 - AandD: Career and Creative Industry Seminar **Credits:** 1

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC 030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

A&D Foundation: 13 Credit Hours

- ART 174 - A and D: Mixed Media Process and Exploration Lab **Credits:** 3
- ART 180 - AandD: Color, Light, and Perception Lab **Credits:** 3
- ART 194 - A and D: Community and the Environment Experience **Credits:** 3
- ART 200 - AandD: Visual Representation and Fabrication **Credits:** 3
- ART 205 - Portfolio Review **Credits:** 1
  Formal evaluation of student work prior to admission to a chosen area of concentration, Studio Art or Visual Communication Design, is required upon completion of the Art and Design Foundation courses. Visual course work must meet faculty approval, and students must pass ART 205 (previously 298) in order to be admitted to a concentration and continue with a BFA degree. Student enrollment in some art courses may depend on having passed the ART 205 and being admitted to a concentration.

Studio Art Concentration Required Courses: 21 Credit Hours

- ART 291 - Introduction to Drawing **Credits:** 3
- ART 331 - Introduction to Digital and Expanded Media **Credits:** 3
- ART 335 - Introduction to Printmaking Techniques **Credits:** 3
- ART 345 - Introduction to Oil Painting **Credits:** 3
- ART 365 - Introduction to the Ceramics Spectrum **Credits:** 3
- ART 370 - Introduction to Metals and Jewelry **Credits:** 3
- ART 395 - Introduction to Digital Photography **Credits:** 3

500, 600 Level Art Courses: 9 Credit Hours

Choose three from any 500 and 600 level Art courses. Enroll in one 500 or 600 level Studio course in the Spring semester of Senior year.

Research Studios: 6 Credit Hours

- ART 405 - A and D: Undergraduate Research Studio **Credits:** 3
- ART 505 - A and D: Senior Research Studio **Credits:** 3

Art History: 15 Credit Hours

ART 195, ART 196 and 2 courses in 20th C Art History, and one Art History Elective

Art History Survey Courses: 6 Credit Hours

- ART 195 - Survey of Western Art History I **Credits:** 3 Eligible for KSC #6
- ART 196 - Survey of Western Art History II **Credits:** 3 Fulfills Global Perpsectives Overlay

20th Century Art History Courses: 6 Credit Hours

Choose any two from the following courses

- ART 545 - Twentieth Century Art History I: Post-Impressionism to Cubism **Credits:** 3
- ART 550 - Twentieth Century Art History II: Dada to Surrealism **Credits:** 3
- ART 602 - Twentieth Century Art History III: Abstract Expressionism to Pop Art **Credits:** 3
- ART 603 - Twentieth Century Art History IV: Conceptual Art to Contemporary Art **Credits:** 3

Art History Elective: 3 Credit Hours

Choose any 1 Art History course - From Department approved Art History List
- https://art.ksu.edu/academics/undergrad/AH_courses.html

Art Electives: 15 Credit Hours - above 200 Level

Choose any 5 Art courses above 200 level. Course may not duplicate with the above requirements.

Free Electives in addition to K-State Core #7: 9 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Art - Visual Communication Design (BFA)

The Bachelor of Fine Arts degree is a professionally oriented undergraduate degree in art or design. It is designed primarily for those planning to become professional artists, artist-teachers, or visual communication designers. Greater emphasis is placed on actual practice in the creative art disciplines.The BFA in Art is a 4-year, 120-credit hour program with concentrations possible in Studio Art or Visual Communication Design. Areas of focus within the Studio Art BFA include Ceramics, Drawing, Metalsmithing and Jewelry, Painting, Photography and Printmaking. The BFA degree is considered the appropriate preparation for the Master of Fine Arts degree, which is recognized as the terminal degree in Studio Arts and Visual Communication Design.

NOTE: Students interested in teaching art in elementary or secondary schools should complete the Bachelor of Science in Education degree offered through the College of Education. This degree includes the Art (EDART) Teacher Licensure Program and 42-credit hours of studio art courses.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional

general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation - 1 Credit Hour

- ART 105 - AandD: Career and Creative Industry Seminar **Credits:** 1

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

A&D Foundation: 13 credit hours

Formal evaluation of student work before admission to a chosen area of concentration, Studio Art or Visual Communication Design, is required upon completion of the Art and Design Foundation courses.

Visual coursework must meet faculty approval, and students must pass ART 205 to be admitted to a concentration and continue with a BFA degree.

Student enrollment in some art courses may depend on passing the ART 205 and being admitted to a concentration.

- ART 174 - A and D: Mixed Media Process and Exploration Lab **Credits:** 3
- ART 180 - AandD: Color, Light, and Perception Lab **Credits:** 3
- ART 194 - A and D: Community and the Environment Experience **Credits:** 3
- ART 200 - AandD: Visual Representation and Fabrication **Credits:** 3
- ART 205 - Portfolio Review **Credits:** 1

VCD Concentration Required Courses: 24 credit hours

- ART 285 - Visual Communication Design Fundamentals **Credits:** 3
- ART 290 - Visual Communication Design I: Typography and Design Principles **Credits:** 3
- ART 310 - Visual Communication Design II: Methods and Processes **Credits:** 3
- ART 390 - Design for Digital Media I **Credits:** 3
- ART 395 - Introduction to Digital Photography **Credits:** 3
- ART 400 - Visual Communication Design III: Storytelling in Design **Credits:** 3
- ART 420 - Visual Communication Design IV: Design and Context **Credits:** 3
- ART 590 - Design for Digital Media II **Credits:** 3

Visual Communication Design Capstone Courses & BFA Exhibition Course: 8 credit hours

- ART 576 - Visual Communication Design Capstone I: Research **Credits:** 3
- ART 580 - Visual Communication Design Capstone II: Project **Credits:** 3
- ART 585 - Visual Communication Design BFA Portfolio and Professional Practices **Credits:** 2

Art History: 15 credit hours

- ART 195 - Survey of Western Art History I **Credits:** 3
- ART 196 - Survey of Western Art History II **Credits:** 3
- ART 601 - Graphic Design History/Theory/Criticism **Credits:** 3
  20th Century Art History Courses:
  Choose any two courses from the following list for a total of 6 credit hours.
- ART 545 - Twentieth Century Art History I: Post-Impressionism to Cubism **Credits:** 3
- ART 550 - Twentieth Century Art History II: Dada to Surrealism **Credits:** 3
- ART 602 - Twentieth Century Art History III: Abstract Expressionism to Pop Art **Credits:** 3
- ART 603 - Twentieth Century Art History IV: Conceptual Art to Contemporary Art **Credits:** 3

Art Electives: 18 credit hours

Choose any 6 Art courses at a 200 level or higher. The course may not duplicate the above program level requirements.

Free Electives: 7 credit hours

In addition to the K-State Core Free Electives requirement, take any course so that the total number of credit hours completed is 120.

Total Hours Required for Graduation: 120

Minor

Art History Minor

The Art History minor is open to all K-State students majoring in an area outside Art who want to develop skills to analyze images and artifacts critically and in historical context. Through an emphasis on understanding visual culture, minors in Art History complement their major area of study with a deeper knowledge of how and what images mean.

Art History Courses: 15 credit hours

Required ART 195 OR ART 196; Select 4 additional 3 credit hour courses from the list below

- ART 195 - Survey of Western Art History I **Credits:** 3
  OR
- ART 196 - Survey of Western Art History II **Credits:** 3
- ART 197 - Survey of Non-Western Art History **Credits:** 3
- ART 545 - Twentieth Century Art History I: Post-Impressionism to Cubism **Credits:** 3
- ART 550 - Twentieth Century Art History II: Dada to Surrealism **Credits:** 3
- ART 601 - Graphic Design History/Theory/Criticism **Credits:** 3
- ART 602 - Twentieth Century Art History III: Abstract Expressionism to Pop Art **Credits:** 3
- ART 603 - Twentieth Century Art History IV: Conceptual Art to Contemporary Art **Credits:** 3
- ART 608 - Special Studies in Art **Credits:** 3
- ART 612 - History of Italian Renaissance Art **Credits:** 3
- ART 613 - History of Northern Renaissance Art **Credits:** 3
- ART 614 - Italian Renaissance Architecture: Patronage and Construction **Credits:** 3
- ART 622 - Baroque Art History **Credits:** 3
- ART 628 - Foreign Studies in Art History **Credits:** 3-6
- ART 634 - History of Modern Sculpture **Credits:** 3
- ART 675 - History of Ceramics **Credits:** 3
- ART 695 - Topics in Art History **Credits:** 3

Total Hours Required: 15

Art Minor

Requirements

Foundation courses (3 credit hours)

Choose at least one course from this list:

- ART 180 - AandD: Color, Light, and Perception Lab **Credits:** 3
- ART 190 - Drawing I **Credits:** 3
- ART 194 - A and D: Community and the Environment Experience **Credits:** 3
- ART 200 - AandD: Visual Representation and Fabrication **Credits:** 3
- ENVD 201 - Environmental Design Studio I **Credits:** 4
- IDSN 225 - Interior Design Studio 1 **Credits:** 4

Art History (3 credit hours)

- ART 195 - Survey of Western Art History I **Credits:** 3
  or
- ART 196 - Survey of Western Art History II **Credits:** 3

Art Electives (6 credit hours)

Any Art or Art History classes (choose those that are the prerequisites for the 500/600-level classes that you wish to take to complete the minor).

Upper Level ART Classes (6 credit hours)

Take 6 credit hours at 500 level or above of Studio Art credits. Note that some of these classes have multiple prerequisites.

Total credit hours: 18

Visual Communication Design Minor

The Visual Communication Minor provides students with knowledge, training, and skills that make them more prepared for a host of professional and educational opportunities that complement many other academic disciplines.

Requirements

Foundation Course (3 credit hours)

Choose one of the following 3 Credit Hour courses

- ART 180 - AandD: Color, Light, and Perception Lab **Credits:** 3
  or
- IDSN 225 - Interior Design Studio 1 **Credits:** 4
  or
- ART 174 - A and D: Mixed Media Process and Exploration Lab **Credits:** 3
  or
- ENVD 201 - Environmental Design Studio I **Credits:** 4

Visual Communication Design Requirement Courses (6 credit hours)

- ART 303 - Visual Communication Design Techniques I **Credits:** 3
- ART 503 - Visual Communication Design Techniques II **Credits:** 3

Visual Communication Design Electives (9 credit hours)

- ART 104 - Digital Photography for Non-majors **Credits:** 3
- ART 304 - Digital Illustration **Credits:** 3
- ART 330 - Digital Techniques in Visual Art **Credits:** 3
- ART 335 - Introduction to Printmaking Techniques **Credits:** 3
- ART 395 - Introduction to Digital Photography **Credits:** 3

- ART 407 - Visual Communication Design Topics **Credits:** 1-3
- ART 601 - Graphic Design History/Theory/Criticism **Credits:** 3
- ART 621 - Advanced Concepts in Digital Video **Credits:** 3
- ART 629 - Foreign Studies in Visual Communication Design **Credits:** 3-6

Total hours required: 18

Other Program Choices

Art - Art History (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
ART 105 - AandD: Career and Creative Industry Seminar	1	
ART 180 - AandD: Color, Light, and Perception Lab	3	
ART 195 - Survey of Western Art History I	3	
First Foreign Lanugage - Level I	4	
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 14		
Semester 2		
ART 174 - A and D: Mixed Media Process and Exploration Lab	3	
ART 196 - Survey of Western Art History II	3	
First Foreign Language - Level II	4	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Social and Behaviorial Science Requirement	3	**KSC 050**
Total Credits: 16		
Second Year		
Semester 1		

ART 200 - AandD: Visual Representation and Fabrication	3	
ART 545 - Twentieth Century Art History I: Post-Impressionism to Cubism **OR**	3	
ART 602 - Twentieth Century Art History III: Abstract Expressionism to Pop Art	3	
First Foreign Language - Level III or Second Foreign Language	3	
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
Outside Concentration	3	
Total Credits: 15		
Semester 2		
Art History Concentration Requirement	3	
ART 550 - Twentieth Century Art History II: Dada to Surrealism **OR**	3	
ART 603 - Twentieth Century Art History IV: Conceptual Art to Contemporary Art	3	
First Foreign Language - Level IV or Second Foreign Language	3	
Free Elective \ Ethical Reasoning Overlay	3	
COMM 106 - Public Speaking I	3	**KSC 020**
Total Credits: 15		
Third Year		
Semester 1		
Art History Concentration Requirement	3	
Natural and Physical Sciences Requirement	4-5	**KSC 040**
Free Elective \ US Multicultural Overlay	3	
Outside Concentration	3	
Arts and Humanities Requirement	3	**KSC 060**

Total Credits: 16			
Semester 2			
Art History Concentration Requirement	3		
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Natural Science or Quantitative Restrictive Elective	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Fourth Year			
Semester 1			
Art History Concentration Requirement	3		
Non-Quantitative Social Science Restrictive Elective (300+level)	3		
Outside Concentration	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
Art History Concentration Requirement	3		
Natural Science or Quantitative or Social Science (with Math or Stat prerequisite)	3		
Arts and Humanities Requirement	3	**KSC 060**	
Free Elective	3		
Free Elective	2		

Total Credits: 14			
Total Program Hours: 120			

Art - Studio Art (BA) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ART 105 - AandD: Career and Creative Industry Seminar	1		
ART 180 - AandD: Color, Light, and Perception Lab	3		
ART 195 - Survey of Western Art History I	3		
First Foreign Language - Level I	4		
ENGL 100 - Expository Writing I	3	**KSC 010**	
Total Credits: 14			
Semester 2			
ART 174 - A and D: Mixed Media Process and Exploration Lab	3		
ART 196 - Survey of Western Art History II	3		
First Foreign Language - Level II	4		
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Social and Behaviorial Sciences Requirement	3	**KSC 050**	
Total Credits: 16			
Second Year			
Semester 1			
ART 200 - AandD: Visual Representation and Fabrication	3		

ART 545 - Twentieth Century Art History I: Post-Impressionism to Cubism **OR**	3	
ART 602 - Twentieth Century Art History III: Abstract Expressionism to Pop Art	3	
First Foreign Language (Level III or Second Foreign Language)	3	
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	
Outside Concentration	3	
Total Credits: 15		
Semester 2		
Studio Art Concentration Requirement	3	
ART 550 - Twentieth Century Art History II: Dada to Surrealism **OR**	3	
ART 603 - Twentieth Century Art History IV: Conceptual Art to Contemporary Art	3	
First Foreign Language (Level IV or Second Foreign Language)	3	
Arts and Humanities Requirement	3	**KSC 060**
COMM 106 - Public Speaking I	3	**KSC 020**
Total Credits: 15		
Third Year		
Semester 1		
Studio Art Concentration Requirement	3	
Natural and Physical Sciences Requirement	4	**KSC 040**
Outside Concentration	3	
Free Elective \ Ethical Reasoning Overlay	3	
Free Elective \ US Multicultural Overlay	3	
Total Credits: 16		

Semester 2		
Studio Art Concentration Requirement	3	
Social and Behavioral Sciences Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Natural Science or Quantitative course	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Fourth Year		
Semester 1		
Studio Art Concentration Requirement	3	
Non-Quantitative Social Science (BA Requirement 300+level)	3	
Outside Concentration	3	
Free Elective	3	
Free Elective	3	
Total Credits: 15		
Semester 2		
Studio Art Concentration Requirement	3	
Natural Science or Quantitative or Social Science (with Math or Stat prerequisite)	3	
Art and Humanities Requirement	3	**KSC 060**
Free Elective	3	
Free Elective	3	
Total Credits: 14		

Total Program Hours: 120		

Art - Studio Art (BFA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
ART 105 - AandD: Career and Creative Industry Seminar	1	
ART 180 - AandD: Color, Light, and Perception Lab	3	**KSC 060**
ART 200 - AandD: Visual Representation and Fabrication	3	
ART 195 - Survey of Western Art History I	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 13		
Semester 2		
ART 205 - Portfolio Review	1	
ART 174 - A and D: Mixed Media Process and Exploration Lab	3	
ART 194 - A and D: Community and the Environment Experience	3	
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
ART 196 - Survey of Western Art History II	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Second Year		
Semester 1		

Studio Art Concentration Required Course	3	
Studio Art Concentration Required Course	3	
Studio Art Concentration Required Course	3	
ART 545 - Twentieth Century Art History I: Post-Impressionism to Cubism **OR**	3	
ART 602 - Twentieth Century Art History III: Abstract Expressionism to Pop Art	3	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Total Credits: 15		
Semester 2		
Studio Art Concentration Required Course	3	
Studio Art Concentration Required Course	3	
Studio Art Concentration Required Course	3	
ART 550 - Twentieth Century Art History II: Dada to Surrealism **OR**	3	
ART 603 - Twentieth Century Art History IV: Conceptual Art to Contemporary Art	3	
COMM 106 - Public Speaking I	3	**KSC 020**
Total Credits: 15		
Third Year		
Semester 1		
Studio Art Concentration Required Course	3	
ART Elective	3	
ART Elective	3	
Art History Elective	3	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		

Semester 2		
ART 405 - A and D: Undergraduate Research Studio	3	
Upper-Level Art - 500 or 600-level ART course	3	
ART Elective	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Natural & Physical Sciences Requirement - with Lab	4	**KSC 040**
Total Credits: 16		
Fourth Year		
Semester 1		
Upper-Level Art 500 or 600-level ART course	3	
ART Elective	3	
ART Elective	3	
Free Elective - Ethical Reasoning	3	
Free Elective - US Multicultural Overlay	3	
Total Credits: 15		
Semester 2		
ART 505 - A and D: Senior Research Studio	3	
Upper-level Art 500 or 600-level ART course	3	
Unrestricted Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		

Total Program Hours: 120		

Art - Visual Communication Design (BFA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
ART 105 - AandD: Career and Creative Industry Seminar	1	
ART 180 - AandD: Color, Light, and Perception Lab	3	**KSC 060**
ART 200 - AandD: Visual Representation and Fabrication	3	
ART 195 - Survey of Western Art History I	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 13		
Semester 2		
ART 205 - Portfolio Review	1	
ART 174 - A and D: Mixed Media Process and Exploration Lab	3	
ART 194 - A and D: Community and the Environment Experience	3	
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
ART 196 - Survey of Western Art History II	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Second Year		
Semester 1		

ART 285 - Visual Communication Design Fundamentals	3	
ART 290 - Visual Communication Design I: Typography and Design Principles	3	
Art Elective	3	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
ART 545 - Twentieth Century Art History I: Post-Impressionism to Cubism **OR**	3	
ART 602 - Twentieth Century Art History III: Abstract Expressionism to Pop Art	3	
Total Credits: 15		
Semester 2		
ART 400 - Visual Communication Design III: Storytelling in Design	3	
ART 395 - Introduction to Digital Photography	3	
Art Elective	3	
ART 550 - Twentieth Century Art History II: Dada to Surrealism **OR**	3	
ART 603 - Twentieth Century Art History IV: Conceptual Art to Contemporary Art	3	
COMM 106 - Public Speaking I	3	**KSC 020**
Total Credits: 15		
Third Year		
Semester 1		
ART 310 - Visual Communication Design II: Methods and Processes	3	
ART 390 - Design for Digital Media I	3	
Art Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Unrestricted Elective	3	
Unrestricted Elective	1	

Total Credits: 16		
Semester 2		
ART 420 - Visual Communication Design IV: Design and Context	3	
ART 590 - Design for Digital Media II	3	
Art Elective	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Fourth Year		
Semester 1		
ART 576 - Visual Communication Design Capstone I: Research	3	
ART 601 - Graphic Design History/Theory/Criticism	3	
Art Elective	3	
Free Elective - Ethical Reasoning Overlay	3	
Free Elective - US Multicultural Overlay	3	
Total Credits: 15		
Semester 2		
ART 580 - Visual Communication Design Capstone II: Project	3	
ART 585 - Visual Communication Design BFA Portfolio and Professional Practices	2	
Art Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Natural & Physical Sciences Requirement - with Lab	4	**KSC 040**

Total Credits: 15			
Total Program Hours: 120			

Biochemistry and Molecular Biophysics

Michal Zolkiewski, Head

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www.k-state.edu/bmb

Biochemistry and Molecular Biophysics seek to understand the molecular events of life processes. It applies chemical and physical techniques to elucidate the structure and organization of molecules, particularly macromolecules that are responsible for the structural organization as well as operation and control of all cellular processes. The emerging knowledge has broad importance and consequences for all areas of the life sciences.

The Department of Biochemistry and Molecular Biophysics offers work leading to bachelor of arts and bachelor of science degrees with majors in biochemistry, including areas of emphasis in medical biochemistry and molecular biophysics. The BA degree provides a liberal education with sufficient emphasis on science for students who wish to prepare for certain professional schools. The BS degree prepares students for professional careers in biochemistry or entry into graduate biochemistry training programs.

To graduate, a student must have a grade of C or better in all science and mathematics courses required for the degree, including transfer courses, as specified below. In addition, to graduate a student must have a 2.2 GPA in required science and mathematics courses taken at K-State.

Transfer students

Community college students who plan to transfer into either of the biochemistry curricula at the junior level should take the following science courses during their first two years of college:

- A year of freshman chemistry—lecture and laboratory
- A semester of analytical chemistry—lecture and laboratory
- A year of organic chemistry—lecture and laboratory
- A year of analytic geometry and calculus
- A year of biology—lecture and laboratory

Completion of these science courses should allow students to go directly into biochemistry and advanced biology courses upon entry into a biochemistry curriculum.

Concurrent BS/MS program

A combined BS/MS program provides exceptional undergraduates an opportunity to obtain both a bachelor of science and a master of science in biochemistry in five years.

For details of application procedures and the program of study toward the MS degree, see the graduate catalog. Admission and retention in the program requires a 3.0 GPA. Students may apply after they have accumulated 45–90 hours towards the BS degree.

Bachelor of Arts

Biochemistry (BA)

Biochemistry and Molecular Biophysics seek to understand the molecular events of life processes. It applies chemical and physical techniques to elucidate the structure and organization of molecules, particularly macromolecules that are responsible for the structural organization as well as operation and control of all cellular processes. The emerging knowledge has broad importance and consequences for all areas of the life sciences.

The Department of Biochemistry and Molecular Biophysics offers work leading to bachelor of arts and bachelor of science degrees with majors in biochemistry, including areas of emphasis in medical biochemistry and molecular biophysics. The BA degree provides a liberal education with sufficient emphasis on science for students who wish to prepare for certain professional schools. The BS degree prepares students for professional careers in biochemistry or entry into graduate biochemistry training programs.

To graduate, a student must have a grade of C or better in all science and mathematics courses required for the degree, including transfer courses, as specified below. In addition, to graduate a student must have a 2.2 GPA in required science and mathematics courses taken at K-State.

Transfer students

Community college students who plan to transfer into either of the biochemistry curricula at the junior level should take the following science courses during their first two years of college:

- A year of freshman chemistry—lecture and laboratory
- A semester of analytical chemistry—lecture and laboratory
- A year of organic chemistry—lecture and laboratory
- A year of analytic geometry and calculus
- A year of biology—lecture and laboratory

Completion of these science courses should allow students to go directly into biochemistry and advanced biology courses upon entry into a biochemistry curriculum.

Concurrent BS/MS program

A combined BS/MS program provides exceptional undergraduates an opportunity to obtain both a bachelor of science and a master of science in biochemistry in five years.

For details of application procedures and the program of study toward the MS degree, see the graduate catalog. Admission and retention in the program requires a 3.0 GPA. Students may apply after they have accumulated 45–90 hours towards the BS degree.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: [20] Credit Hours

*Chemistry Minor

Students in the BS in Biochemistry Degree complete a chemistry minor based on the course requirements for the major.

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Biochemistry Requirements: 15 Credit Hours

- BIOCH 110 - Biochemistry and Society **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3
- BIOCH 755 - Biochemistry I **Credits:** 3
- BIOCH 765 - Biochemistry II **Credits:** 3

Chemistry Requirements: 17 Credit Hours

- CHM 210 - Chemistry I **Credits:** 4
- CHM 230 - Chemistry II **Credits:** 4

- CHM 350 - General Organic Chemistry **Credits:** 3
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
- CHM 371 - Chemical Analysis **Credits:** 4

Biology Requirements: 11 Credit Hours

- BIOL 198 - Principles of Biology **Credits:** 4
  KSC-040
- BIOL 255 - General Microbiology **Credits:** 4
- BIOL 398 - Principles of Genetics **Credits:** 4
- BIOL 541 - Cell Biology **Credits:** 3

Physics Requirements: 8 Credit Hours

- PHYS 113 - General Physics I **Credits:** 4
- PHYS 114 - General Physics II **Credits:** 4

Mathematics Requirements: 4 Credit Hours

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
  KSC-030
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4

Statistics Requirement: 3 Credit Hours

Students may choose any 3 credit hours of statistics (STAT 200 or higher)

Free Electives (if needed)

Take any course to complete the required total of 120 credits. The department recommends that students complete their electives, where possible, with upper division (>500 level) courses in BIOCH, BIOL, CHM, CIS, MATH, PHYS, or STAT.

BA Arts, Humanities, and Social Sciences Requirement: 9 Credit Hours

3 credit hours in each of the following, with at least 6 credit hours at 300 level or above **OR** at any level with a prerequisite in the same discipline.

One Humanities Course: 3 Credit Hours

Any course or combination of courses in Fine Arts: 3 Credit Hours

Non-Quantitative Social Science Course: 3 Credit Hours

Choose any social science course that does NOT have a MATH or STAT prereq

BA Second Language Requirement: 14 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Total Hours Required for Graduation: 120

Biochemistry - Medical Biochemistry (BA)

Biochemistry and Molecular Biophysics seek to understand the molecular events of life processes. It applies chemical and physical techniques to elucidate the structure and organization of molecules, particularly macromolecules that are responsible for the structural organization as well as operation and control of all cellular processes. The emerging knowledge has broad importance and consequences for all areas of the life sciences.

The Department of Biochemistry and Molecular Biophysics offers work leading to bachelor of arts and bachelor of science degrees with majors in biochemistry, including areas of emphasis in medical biochemistry and molecular biophysics. The BA degree provides a liberal education with sufficient emphasis on science for students who wish to prepare for certain professional schools. The BS degree prepares students for professional careers in biochemistry or entry into graduate biochemistry training programs.

To graduate, a student must have a grade of C or better in all science and mathematics courses required for the degree, including transfer courses, as specified below. In addition, to graduate a student must have a 2.2 GPA in required science and mathematics courses taken at K-State.

Transfer students

Community college students who plan to transfer into either of the biochemistry curricula at the junior level should take the following science courses during their first two years of college:

- A year of freshman chemistry—lecture and laboratory
- A semester of analytical chemistry—lecture and laboratory
- A year of organic chemistry—lecture and laboratory
- A year of analytic geometry and calculus
- A year of biology—lecture and laboratory

Completion of these science courses should allow students to go directly into biochemistry and advanced biology courses upon entry into a biochemistry curriculum.

Concurrent BS/MS program

A combined BS/MS program provides exceptional undergraduates an opportunity to obtain both a bachelor of science and a master of science in biochemistry in five years.

For details of application procedures and the program of study toward the MS degree, see the graduate catalog. Admission and retention in the program requires a 3.0 GPA. Students may apply after they have accumulated 45–90 hours towards the BS degree.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: [21] Credit Hours

Outside credential of at least 9 credit hours:

*Biology Minor

Students in the BA in Biochemistry Degree - Medical Track complete a Biology minor based on the course requirements for the major.

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Biochemistry Requirements: 15 Credit Hours

- BIOCH 110 - Biochemistry and Society **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3
- BIOCH 571 - Medical Biochemistry **Credits:** 3
- BIOCH 755 - Biochemistry I **Credits:** 3
  OR
- BIOCH 799 - Advanced Research Training in Biochemistry **Credits:** 0-18

Chemistry Requirements: 17 Credit Hours

- CHM 210 - Chemistry I **Credits:** 4
- CHM 230 - Chemistry II **Credits:** 4
- CHM 350 - General Organic Chemistry **Credits:** 3
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
- CHM 371 - Chemical Analysis **Credits:** 4

Biology Requirements: 15 Credit Hours

- BIOL 198 - Principles of Biology **Credits:** 4
  KSC-040
- BIOL 255 - General Microbiology **Credits:** 4
- BIOL 398 - Principles of Genetics **Credits:** 4
- BIOL 541 - Cell Biology **Credits:** 3
- BIOL 670 - Immunology **Credits:** 3

Physics Requirements: 8 Credit Hours

- PHYS 113 - General Physics I **Credits:** 4
- PHYS 114 - General Physics II **Credits:** 4

Mathematics Requirements: [4] Credit Hours

KSC-030

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Statistics Requirement: 3 Credit Hours

Choose one STAT course for 3 credit hours

Free Electives

Take any course to complete the total required 120 credits.The department recommends that students complete their electives, where possible, with upper division (>500 level) courses in BIOCH, BIOL, CHM, CIS, MATH, PHYS, or STAT. ASI 533, BIOL 410, BIOL 441, BIOL 442, MATH 221, 222, 340, PHILO 365, and PSYCH 470 are allowed.

BA Arts, Humanities, and Social Sciences Requirement: 9 Credit Hours

3 credit hours in each of the following, ensuring that at least 6 credit hours are at a course level of 300 or above **OR** at any level with a prerequisite in the same discipline.

One course in Humanities Course: 3 Credit Hours

Any course or combination of courses in Fine Arts: 3 Credit Hours

One Non-Quantitative Social Science Course: 3 Credit Hours

Choose any social science course that does NOT have a MATH or STAT prereq.

BA Second Language Requirement: 14 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Total Hours Required for Graduation: 120

Bachelor of Science

Biochemistry (BS)

Biochemistry and Molecular Biophysics seek to understand the molecular events of life processes. It applies chemical and physical techniques to elucidate the structure and organization of molecules, particularly macromolecules that are responsible for the structural organization as well as operation and control of all cellular processes. The emerging knowledge has broad importance and consequences for all areas of the life sciences.

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To graduate, a student must have a grade of C or better in all science and mathematics courses required for the degree, including transfer courses, as specified below. In addition, to graduate a student must have a 2.2 GPA in required science and mathematics courses taken at K-State.

Transfer students

Community college students who plan to transfer into either of the biochemistry curricula at the junior level should take the following science courses during their first two years of college:

- A year of freshman chemistry—lecture and laboratory
- A semester of analytical chemistry—lecture and laboratory
- A year of organic chemistry—lecture and laboratory
- A year of analytic geometry and calculus
- A year of biology—lecture and laboratory

Completion of these science courses should allow students to go directly into biochemistry and advanced biology courses upon entry into a biochemistry curriculum.

Concurrent BS/MS program

A combined BS/MS program provides exceptional undergraduates an opportunity to obtain both a bachelor of science and a master of science in biochemistry in five years.

For details of application procedures and the program of study toward the MS degree, see the graduate catalog. Admission and retention in the program requires a 3.0 GPA. Students may apply after they have accumulated 45–90 hours towards the BS degree.

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General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: [18-20] Credit Hours

Outside credential of at least 9 credit hours:

*Chemistry Minor

Students in the BS in Biochemistry Degree complete a chemistry minor based on the course requirements for the major.

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Biochemistry Requirements: 22 Credit Hours

- BIOCH 110 - Biochemistry and Society **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3
- BIOCH 755 - Biochemistry I **Credits:** 3
- BIOCH 756 - Biochemistry I Laboratory **Credits:** 2
- BIOCH 765 - Biochemistry II **Credits:** 3
- BIOCH 775 - Molecular Biophysics **Credits:** 3
- BIOCH 799 - Advanced Research Training in Biochemistry **Credits:** 0-18

Chemistry Requirements: 20 Credit Hours

- CHM 371 - Chemical Analysis **Credits:** 4
- CHM 210 - Chemistry I **Credits:** 4
  OR
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4

OR

- CHM 250 - Honors Chemistry II **Credits:** 5
- CHM 350 - General Organic Chemistry **Credits:** 3
  OR
- CHM 531 - Organic Chemistry I **Credits:** 3
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
  OR
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
- CHM 500 - General Physical Chemistry **Credits:** 3
  OR
- CHM 585 - Physical Chemistry I **Credits:** 3

Biology Requirements: 11 Credit Hours

- BIOL 198 - Principles of Biology **Credits:** 4
  KSC-040
- BIOL 255 - General Microbiology **Credits:** 4
- BIOL 398 - Principles of Genetics **Credits:** 4
- BIOL 541 - Cell Biology **Credits:** 3

Physics Requirements: 8 Credit Hours

- PHYS 113 - General Physics I **Credits:** 4
  OR
- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 114 - General Physics II **Credits:** 4
  OR
- PHYS 214 - Engineering Physics II **Credits:** 5

Mathematics Requirements: 4 Credit Hours

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
  KSC-030
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4

Statistics Requirement: 3 Credit Hours

Students may choose any 3 credit hours of statistics (STAT 200 or higher)

Upper-Division Electives: 6 Credit Hours

Students will complete any upper division (>500 level) course in BIOCH, BIOL, CHM, CIS, MATH, PHYS, STAT

MATH 222 or MATH 340 are also allowed

BS Arts, Humanities, and Social Sciences Requirement: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities Course: 3 Credit Hours

Any course or combination of courses

Non-Quantitative Social Science Course: 3 Credit Hours

Choose any social science course that does NOT have a MATH or STAT prereq

Free Electives (if needed)

In addition to the K-State Core Free Electives requirement, take any course so that the total number of credit hours completed is 120. The department recommends that students complete their electives, where possible, with upper division (>500 level) courses in BIOCH, BIOL, CHM, CIS, MATH, PHYS, or STAT.

Total Hours Required for Graduation: 120

Notes:

A&S standard BS degree requirements are met by the following:

- Arts, Humanities, and Social Sciences Restricted Electives
- BIOCH 521 - Natural Science Course
- BIOCH 755 - Natural Science Course
- BIOL 450 - Natural Science Course
- MATH 221 - Quantitative Course

Biochemistry - Biochemistry and Molecular Biophysics (BS)

Biochemistry and Molecular Biophysics seek to understand the molecular events of life processes. It applies chemical and physical techniques to elucidate the structure and organization of molecules, particularly macromolecules that are responsible for the structural organization as well as operation and control of all cellular processes. The emerging knowledge has broad importance and consequences for all areas of the life sciences.

The Department of Biochemistry and Molecular Biophysics offers work leading to bachelor of arts and bachelor of science degrees with majors in biochemistry, including areas of emphasis in medical biochemistry and molecular biophysics. The BA degree provides a liberal education with sufficient emphasis on science for students who wish to prepare for certain professional schools. The BS degree prepares students for professional careers in biochemistry or entry into graduate biochemistry training programs.

To graduate, a student must have a grade of C or better in all science and mathematics courses required for the degree, including transfer courses, as specified below. In addition, to graduate a student must have a 2.2 GPA in required science and mathematics courses taken at K-State.

Transfer students

Community college students who plan to transfer into either of the biochemistry curricula at the junior level should take the following science courses during their first two years of college:

- A year of freshman chemistry—lecture and laboratory
- A semester of analytical chemistry—lecture and laboratory
- A year of organic chemistry—lecture and laboratory
- A year of analytic geometry and calculus
- A year of biology—lecture and laboratory

Completion of these science courses should allow students to go directly into biochemistry and advanced biology courses upon entry into a biochemistry curriculum.

Concurrent BS/MS program

A combined BS/MS program provides exceptional undergraduates an opportunity to obtain both a bachelor of science and a master of science in biochemistry in five years.

For details of application procedures and the program of study toward the MS degree, see the graduate catalog. Admission and retention in the program requires a 3.0 GPA. Students may apply after they have accumulated 45–90 hours towards the BS degree.

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General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: [20] Credit Hours

*Chemistry Minor

Students in the BS in Biochemistry Degree—Molecular Biophysics Track complete a chemistry minor based on the course requirements for the major.

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Biochemistry Requirements: 22 Credit Hours

- BIOCH 110 - Biochemistry and Society **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3
- BIOCH 755 - Biochemistry I **Credits:** 3
- BIOCH 756 - Biochemistry I Laboratory **Credits:** 2
- BIOCH 765 - Biochemistry II **Credits:** 3
- BIOCH 775 - Molecular Biophysics **Credits:** 3
- BIOCH 799 - Advanced Research Training in Biochemistry **Credits:** 0-18

Chemistry Requirements: 20 Credit Hours

- CHM 210 - Chemistry I **Credits:** 4
- CHM 230 - Chemistry II **Credits:** 4
- CHM 350 - General Organic Chemistry **Credits:** 3
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
- CHM 371 - Chemical Analysis **Credits:** 4
- CHM 500 - General Physical Chemistry **Credits:** 3

Biology Requirements: 11 Credit Hours

- BIOL 198 - Principles of Biology **Credits:** 4
  KSC-040
- BIOL 255 - General Microbiology **Credits:** 4
- BIOL 398 - Principles of Genetics **Credits:** 4
- BIOL 541 - Cell Biology **Credits:** 3

Physics Requirements: 11 Credit Hours

- PHYS 113 - General Physics I **Credits:** 4
- PHYS 114 - General Physics II **Credits:** 4
- PHYS 664 - Thermodynamics and Statistical Physics **Credits:** 3

- **OR** PHYS 775 - Biological Physics **Credits:** 3

Mathematics Requirements: 8 Credit Hours

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
  KSC-030
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- MATH 222 - Analytic Geometry and Calculus III **Credits:** 4

Statistics Requirement: 3 Credit Hours

Choose one STAT course level 200 or higher

BS Arts, Humanities, and Social Sciences Requirements: 6 Credit Hours

3 credit hours in each of the following, ensuring that at least 3 credit hours are at a course level of 300 or above **OR** at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: 3 Credit Hours

Non-Quantitative Social Science Course: 3 Credit Hours

Choose any social science course that does NOT have a MATH or STAT prereq

Free Electives

In addition to the K-State Core Free Electives requirement, take any course so that the total number of credit hours completed is 120. The department recommends that students complete their electives, where possible, with upper division (>500 level) courses in BIOCH, BIOL, CHM, CIS, MATH, PHYS, or STAT.

Total Hours Required for Graduation: 120

Biochemistry - Medical Biochemistry (BS)

Biochemistry and Molecular Biophysics seek to understand the molecular events of life processes. It applies chemical and physical techniques to elucidate the structure and organization of molecules, particularly macromolecules that are responsible for the structural organization as well as operation and control of all cellular processes. The emerging knowledge has broad importance and consequences for all areas of the life sciences.

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To graduate, a student must have a grade of C or better in all science and mathematics courses required for the degree, including transfer courses, as specified below. In addition, to graduate a student must have a 2.2 GPA in required science and mathematics courses taken at K-State.

Transfer students

Community college students who plan to transfer into either of the biochemistry curricula at the junior level should take the following science courses during their first two years of college:

- A year of freshman chemistry—lecture and laboratory
- A semester of analytical chemistry—lecture and laboratory
- A year of organic chemistry—lecture and laboratory
- A year of analytic geometry and calculus
- A year of biology—lecture and laboratory

Completion of these science courses should allow students to go directly into biochemistry and advanced biology courses upon entry into a biochemistry curriculum.

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General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: [21] Credit Hours

Outside credential of at least 9 credit hours:

*Biology Minor

Students in the BA in Biochemistry Degree - Medical Track complete a Biology minor based on the course requirements for the major.

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Biochemistry Requirements: 18 Credit Hours

Students may take any 700- or higher-level course [3 credit hour BMB classes] as alternatives to BIOCH 755 and BIOCH 765

- BIOCH 110 - Biochemistry and Society **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3
- BIOCH 571 - Medical Biochemistry **Credits:** 3
- BIOCH 755 - Biochemistry I **Credits:** 3
- BIOCH 765 - Biochemistry II **Credits:** 3

Chemistry Requirements: 17 Credit Hours

- CHM 371 - Chemical Analysis **Credits:** 4
- CHM 210 - Chemistry I **Credits:** 4
  OR
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
  OR
- CHM 250 - Honors Chemistry II **Credits:** 5
- CHM 350 - General Organic Chemistry **Credits:** 3
  OR
- CHM 531 - Organic Chemistry I **Credits:** 3
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
  OR
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2

Biology Requirements: 14 Credit Hours

- BIOL 198 - Principles of Biology **Credits:** 4
  KSC-040
- BIOL 255 - General Microbiology **Credits:** 4
- BIOL 398 - Principles of Genetics **Credits:** 4
- BIOL 541 - Cell Biology **Credits:** 3
- BIOL 670 - Immunology **Credits:** 3

Physics Requirements: 8 Credit Hours

- PHYS 113 - General Physics I **Credits:** 4
  OR
- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 114 - General Physics II **Credits:** 4
  OR
- PHYS 214 - Engineering Physics II **Credits:** 5

Mathematics Requirements: [4] Credit Hours

KSC-030

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Statistics Requirements: 6 Credit Hours

Students may choose any 6 credit hours of statistics, with 3 credit hours at a 300+ or higher

Upper-Division Electives: 8 Credit Hours

Students must complete any upper-division (500 or higher) courses in BIOCH, *BIOL, CHM, CIS, MATH, PHYS, STAT

ASI 533, BIOL 410, BIOL 441, BIOL 442, MATH 221, 222, 340, PHILO 365, and PSYCH 470 are allowed

*BIOL - students will need to choose 3 more hours in biology to receive the biology minor

BS Arts, Humanities, and Social Sciences Requirements: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above **OR** at any level with a prerequisite in the same discipline.

Fine Arts or Humanities Course: 3 Credit Hours

Non-Quantitative Social Science Course: 3 Credit Hours

Free Electives: 2 Credit Hours

In addition to the K-State Core Free Electives requirement, take any course so that the total number of credit hours completed is 120.

Total Hours Required for Graduation: 120

Other Program Choices

Biochemistry (BA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
BIOCH 110 - Biochemistry and Society	3	
CHM 210 - Chemistry I **OR**	4	**KSC 040**
CHM 220 - Honors Chemistry I	5	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
First Foreign Language - Level I	4	
Total Credits: 15		
Semester 2		
BIOL 198 - Principles of Biology	4	
CHM 230 - Chemistry II **OR**	4	
CHM 250 - Honors Chemistry II	5	
MATH 221 - Analytic Geometry and Calculus II	4	
First Foreign Language - Level II	4	
Total Credits: 16		
Second Year		
Semester 1		
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
PHYS 113 - General Physics I **OR**	4	
PHYS 213 - Engineering Physics I	5	
First Foreign Language - Level III **OR**	3	

Second Foreign Language - Level I	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 15		
Semester 2		
BIOCH 521 - General Biochemistry	3	
BIOCH 522 - General Biochemistry Laboratory	3	
PHYS 114 - General Physics II **OR**	4	
PHYS 214 - Engineering Physics II	5	
First Foreign Language - Level IV **OR**	3	
Second Foreign Language - Level II	3	
Upper-Division Elective - Recommend CHM 500	3	
Total Credits: 16		
Third Year		
Semester 1		
CHM 371 - Chemical Analysis	4	
BIOL 398 - Principles of Genetics	4	
ENGL 200 - Expository Writing II	3	**KSC 010**
Social & Behavioral Sciences Requirement - Ethical Reasoning Overlay	3	**KSC 050**
Total Credits: 14		
Semester 2		
BIOL 541 - Cell Biology	3	
BIOL 255 - General Microbiology	4	

Arts & Humanities Requirement - US Multicultural Overlay	3	**KSC 060**
A&S Non-Quantitative Social Science - Global Perspectives Overlay	3	
COMM 106 - Public Speaking I	3	**KSC 020**
Total Credits: 16		
Fourth Year		
Semester 1		
BIOCH 755 - Biochemistry I	3	
Arts & Humanities Requirement	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Statistics	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Semester 2		
BIOCH 765 - Biochemistry II	3	
Upper-Division Quantitative Elective	1	
Humanities Restrictive Elective	3	
Fine Arts - Restrictive Elective	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 13		
Total Program Hours: 120		

Biochemistry (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
BIOCH 110 - Biochemistry and Society	3	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
CHM 210 - Chemistry I **OR**	4	**KSC 040**
CHM 220 - Honors Chemistry I	5	
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 15		
Semester 2		
BIOL 198 - Principles of Biology	4	
CHM 230 - Chemistry II **OR**	4	
CHM 250 - Honors Chemistry II	5	
MATH 221 - Analytic Geometry and Calculus II	4	
ENGL 200 - Expository Writing II	3	**KSC 010**
Total Credits: 15		
Second Year		
Semester 1		
BIOL 255 - General Microbiology	4	
CHM 350 - General Organic Chemistry **OR**	3	
CHM 531 - Organic Chemistry I	3	
CHM 351 - General Organic Chemistry Laboratory **OR**	2	

CHM 532 - Organic Chemistry Laboratory	2	
PHYS 113 - General Physics I **OR**	4	
PHYS 213 - Engineering Physics I	5	
COMM 106 - Public Speaking I	3	**KSC 020**
Total Credits: 16		
Semester 2		
BIOCH 521 - General Biochemistry	3	
BIOCH 522 - General Biochemistry Laboratory	3	
PHYS 114 - General Physics II **OR**	4	
PHYS 214 - Engineering Physics II	5	
Upper-Division Elective (>500 level course in BIOCH, BIOL, CHM, CIS, MATH, PHYS, STAT)	3	
CHM 550 is recommended (Must have taken CHM 531)		
Social and Behavioral Science Requirement	3	**KSC 050**
Total Credits: 16		
Third Year		
Semester 1		
BIOL 398 - Principles of Genetics	4	
CHM 371 - Chemical Analysis	4	
Any course in STAT (200+)	3	
Social and Behavioral Science Requirement (Global Perspectives Overlay)	3	**KSC 050**
Total Credits: 14		
Semester 2		

BIOL 541 - Cell Biology	3	
CHM 500 - General Physical Chemistry **OR**	3	
CHM 585 - Physical Chemistry I	3	
Upper-Division Elective Any upper division (>500 level) course in BIOCH, BIOL, CHM, CIS, MATH (including MATH 222 and MATH 340), PHYS, STAT	3	
Arts and Humanities Requirement	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Fourth Year		
Semester 1		
BIOCH 755 - Biochemistry I	3	
BIOCH 756 - Biochemistry I Laboratory	2	
BIOCH 799 - Advanced Research Training in Biochemistry	0-18	
Upper-Division Elective Any upper division (>500 level) course in BIOCH, BIOL, CHM, CIS, MATH (including MATH 222 and MATH 340), PHYS, STAT	3	
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 14		
Semester 2		
BIOCH 765 - Biochemistry II	3	
BIOCH 775 - Molecular Biophysics	3	
A&S BS requirements Non-Quantitative Social Science	3	
A&S BS requirements Fine Arts or Humanities	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		

Total Program Hours: 120		

Biochemistry - Biochemistry and Molecular Biophysics (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	Hours	K-State Core
Semester 1	3	
BIOCH 110 - Biochemistry and Society	4	**KSC 030**
MATH 220 - Analytic Geometry and Calculus I	4	
CHM 210 - Chemistry I	3	**KSC 010**
ENGL 100 - Expository Writing I		
Total Credits: 14		
Semester 2		
PHYS 213 - Engineering Physics I	5	
MATH 221 - Analytic Geometry and Calculus II	4	
CHM 230 - Chemistry II	4	
ENGL 200 - Expository Writing II	3	**KSC 010**
Total Credits: 16		
Second Year		
Semester 1		
PHYS 214 - Engineering Physics II	5	
MATH 222 - Analytic Geometry and Calculus III	4	
CHM 350 - General Organic Chemistry	3	

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	Hours	K-State Core
CHM 351 - General Organic Chemistry Laboratory	2	
COMM 106 - Public Speaking I	3	**KSC 020**
Total Credits: 17		
Semester 2		
BIOCH 521 - General Biochemistry	3	
BIOCH 522 - General Biochemistry Laboratory	3	
BIOL 198 - Principles of Biology	4	**KSC 040**
Social and Behavioral Science	3	**KSC 050**
Free elective	2	
Total Credits: 15		
Third Year		
Semester 1		
CHM 371 - Chemical Analysis	4	
BIOL 398 - Principles of Genetics	4	
Statistics course 200+	3	
Social and Behavioral Science and Global Perspectives Overlay	3	**KSC 050**
Total Credits: 14		
Semester 2		
CHM 500 - General Physical Chemistry	3	
BIOL 541 - Cell Biology	3	

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	Hours	K-State Core
BIOL 255 - General Microbiology	4	
Arts and Humanities and US Multicultural Overlay	3	**KSC 060**
Free Elective	3	**KSC 070**
Total Credits: 16		
Fourth Year		
Semester 1		
BIOCH 755 - Biochemistry I	3	
BIOCH 756 - Biochemistry I Laboratory	2	
BIOCH 799 - Advanced Research Training in Biochemistry	0-18	
PHYS 664 - Thermodynamics and Statistical Physics	3	
Arts and Humanities and Ethical Reasoning Overlap	3	**KSC 060**
Total Credits: 13		
Semester 2		
BIOCH 765 - Biochemistry II	3	
BIOCH 775 - Molecular Biophysics	3	
Free Elective	3	**KSC 070**
Non-Quantitative Social Science	3	
Arts and Humanities	3	
Total Credits: 15		
Total Program Hours: 120		

Biochemistry - Medical Biochemistry (BA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
BIOCH 110 - Biochemistry and Society	3	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
CHM 210 - Chemistry I **OR**	4	
CHM 220 - Honors Chemistry I	5	
First Foreign Language - Level I	4	
Total Credits: 15		
Semester 2		
BIOL 198 - Principles of Biology	4	
CHM 230 - Chemistry II **OR**	4	
CHM 250 - Honors Chemistry II	5	
First Foreign Language - Level II	4	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Second Year		
Semester 1		
BIOL 255 - General Microbiology	4	
CHM 350 - General Organic Chemistry **AND**	3	
CHM 351 - General Organic Chemistry Laboratory **OR**	2	
CHM 531 - Organic Chemistry I **AND**	3	

CHM 532 - Organic Chemistry Laboratory	2	
PHYS 113 - General Physics I **OR**	4	**KSC 040**
PHYS 213 - Engineering Physics I	5	
First Foreign Language - Level III **OR**	3	
Second Foreign Language - Level I	3	
Total Credits: 16		
Semester 2		
BIOCH 521 - General Biochemistry	3	
BIOCH 522 - General Biochemistry Laboratory	3	
PHYS 114 General Physics II **OR**	4	
PHYS 214 - Engineering Physics II	5	
First Foreign Language - Level IV **OR**	3	
Second Foreign Language - Level II	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 16		
Third Year		
Semester 1		
CHM 371 - Chemical Analysis	4	
BIOL 398 - Principles of Genetics	4	
BIOCH 571 -Medical Biochemistry	3	
Social & Behavioral Science Requirement - Ethical Reasoning Overlay	3	**KSC 050**
ENGL 200 - Expository Writing II	3	**KSC 010**
Total Credits: 17		

Semester 2		
BIOL 541 - Cell Biology	3	
COMM 106 - Public Speaking I	3	**KSC 020**
Social & Behavioral Science Requirement - US Multicultural Overlay	3	**KSC 050**
Arts & Humanities Requirement - Global Perspectives Overlay	3	**KSC 060**
Total Credits: 12		
Fourth Year		
Semester 1		
Biochemistry I/Advanced Research/Statistics	3	
Upper-Division Quantitative Elective	4	
Statistics	3	
Arts & Humanities Requirement	3	**KSC 060**
Humanities Restrictive Elective	3	
Total Credits: 16		
Semester 2		
BIOL 670 - Immunology	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Non-Quantitative Social Sciences Restrictive Elective	3	
Fine Arts - Restrictive Elective	3	
Total Credits: 13		
Total Program Hours: 120		

Biochemistry - Medical Biochemistry (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
BIOCH 110 - Biochemistry and Society	3	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
CHM 210 - Chemistry I	4	
ENGL 100 - Expository Writing I	3	**KSC 010**
Free Elective	1	
Total Credits: 15		
Semester 2		
BIOL 198 - Principles of Biology	4	
CHM 230 - Chemistry II	4	
Free Elective	3	**KSC 070**
ENGL 200 - Expository Writing II	3	**KSC 010**
Total Credits: 14		
Second Year		
Semester 1		
BIOL 255 - General Microbiology	4	
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
PHYS 113 - General Physics I	4	**KSC 040**
COMM 106 - Public Speaking I	3	**KSC 020**

Total Credits: 16		
Semester 2		
BIOCH 521 - General Biochemistry	3	
BIOCH 522 - General Biochemistry Laboratory	3	
PHYS 114 - General Physics II	4	
Upper-Division Elective	3	
Social & Behavioral Science Requirement	3	**KSC 050**
Total Credits: 16		
Third Year		
Semester 1		
CHM 371 - Chemical Analysis	4	
BIOL 398 - Principles of Genetics	4	
Statistics course 200+	3	
BIOCH 571 - Medical Biochemistry	3	
Social & Behavioral Science Requirement	3	**KSC 050**
Total Credits: 17		
Semester 2		
BIOL 541 - Cell Biology	3	
Upper-Division Elective	3	
Arts & Humanities and Ethical Reasoning Overlay	3	**KSC 060**
Statistics course 300+	3	
Free Elective	2	

Total Credits: 14		
Fourth Year		
Semester 1		
BIOCH 755 - Biochemistry I	3	
Upper-Division Elective	3	
Upper-Division Elective	3	
Arts & Humanities and US Multicultural Overlay	3	**KSC 060**
Free Elective	3	**KSC 070**
Total Credits: 15		
Semester 2		
BIOCH 765 - Biochemistry II	3	
BIOL 670 - Immunology	3	
Non-Quantitative Social Science	3	
Arts & Humanities	3	
Total Credits: 12		
Total Program Hours: 120		

Biology

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Web Address: www.k-state.edu/biology

The biology undergraduate requirements provide students a basic understanding of biological principles and methods and allow students to build on that base by further intensive or extensive study.

Course offerings and curricula accurately reflect both recent developments in the field of biology and changing requirements of students. Undergraduate majors are offered in biology; microbiology; and fisheries, wildlife, conservation, and environmental biology, plus the professional (paramedical) and pre-professional areas. Students majoring in areas of the Division of Biology are assigned advisors to assist in planning their academic programs. Course offerings and degree requirements are sufficiently broad to allow great flexibility in tailoring a program of study to the interests and needs of an individual student. Undergraduate curriculum planning, including choice of areas of emphasis and elective courses, is ultimately the responsibility of students in consultation with their advisors.

Pre-professional curricula

Students preparing to seek admission to veterinary, medical, dental, optometry, physical therapy, medical technology, and other professional schools may major in biology (or another discipline) provided the specific pre-professional requirements are met. Students should work with both an appropriate pre-professional advisor in the Pre-Professional and Exploratory Advising Center and a biology advisor in the College of Arts and Sciences dean's office to assure the proper planning of an academic program to meet their professional goals.

Students preparing to be biology teachers in secondary education are encouraged to pursue a degree program in the Division of Biology. Students should utilize both an advisor in the College of Education (regarding certification requirements and education courses) and a biology advisor.

Undergraduate research

The Division of Biology encourages exceptionally motivated students to participate in biology research, as a way of using information obtained in the classroom. This is especially encouraged for students intending to apply to graduate programs or professional programs following graduation. Students may receive course credit for these activities, which can be used to fill major elective requirements. Opportunities are available in the laboratories of individual faculty members, often with funding provided from research grants obtained by faculty efforts. Students may learn of these opportunities by discussion with faculty members having interests in biology which are similar to their own.

Bachelor of Arts

Biology (BA)

The Biology BA combines the study of biological sciences with the study of language. It provides an excellent foundation in biology for students wishing to have interdisciplinary careers, including in education, policy, and law. In addition to the requirements of the University and College of Arts and Sciences, students earning a biology BA must take courses indicated below to meet graduation requirements.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of

100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 credit hour

- BIOL 100 - Biology First-Year Orientation **Credits:** 1
  OR
- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 4-9+ credit hours

Outside credential of at least 9 credit hours (May be from any unit, **except BIOL,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except BIOL) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] credit hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Biology (BA) Major Requirements

The curriculum for this major assumes students enter college prepared to take Calculus.

Biology Requirements: 37-45 credit hours

Credit total assumes MATH 220 counted as part of the K-State Core 3

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 398 - Principles of Genetics **Credits:** 4
- BIOL 529 - Ecology **Credits:** 3
- CHM 210 - Chemistry I **Credits:** 4

- CHM 230 - Chemistry II **Credits:** 4
- BIOL 520 - Evolution **Credits:** 3
  OR
- BIOL 521 - Evolution of Infectious Diseases **Credits:** 3
  Choose One Organic Chemistry Set:
- CHM 350 - General Organic Chemistry **Credits:** 3
  OR
- CHM 531 - Organic Chemistry I **Credits:** 3
  AND
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
  OR
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
  AND
- CHM 550 - Organic Chemistry II **Credits:** 3
  OR
- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
  Choose One Math Course from the list below:
- MATH 100 - College Algebra **Credits:** 3
- MATH 150 - Plane Trigonometry **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
  Choose One Physics Course from the list below:
- PHYS 113 - General Physics I **Credits:** 4
- PHYS 115 - Descriptive Physics **Credits:** 5
- PHYS 213 - Engineering Physics I **Credits:** 5
  Choose One Statistics Course from the list below:
- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 701 - Fundamental Methods of Biostatistics **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

Major Electives: 15 credit hours

Select a total of 15 credit hours. No course used here can be used elsewhere.

- BIOL 365 - Practicum in Biology **Credits:** 1-4
  Note: No more than 2 credits from BIOL 365 can be used toward BIOL electives.
  Biology courses numbered 400 or above (other than BIOL 695 and BIOL 698).
  Biology course listing can be found in the University Course Catalog.
  Research Courses - Choose no more than 3 credit hours from the list below:
  Choose from the Course list below, no more than 3 credit hours from all Research Courses combined can be used toward BIOL electives.
- AGRON 598 - Undergraduate Research in Agronomy **Credits:** 0-18
- AP 790 - Problems in Anatomy and Physiology **Credits:** 1-18
- ASI 561 - Undergraduate Research in Animal Sciences & Industry **Credits:** 0-3
- BAE 497 - Undergraduate Research Experience **Credits:** 0-3
- BAE 499 - Honors Research in Biological Systems Engineering **Credits:** 1-18
- BIOCH 599 - Research Training in Biochemistry **Credits:** 1-3
- BIOL 695 - Internship in Biology **Credits:** 1-3
- BIOL 698 - Research in Biology **Credits:** 0-8

- CHE 497 - Undergraduate Research Experience **Credits:** 0-3
- CHM 497 - Research in Undergraduate Chemistry **Credits:** 1-3
- DAS 400 - Undergraduate Research in Arts and Sciences **Credits:** 0-3
- DAS 506 - Undergraduate Cancer Research **Credits:** 1
- DMP 680 - Problems in Pathobiology **Credits:** 1-5
- ENTOM 482 - Research Experience in Entomology **Credits:** 1-3
- GEOG 497 - Undergraduate Research in Geography **Credits:** 1-3
- KIN 597 - Research Experience in Kinesiology **Credits:** 0-3
- PLPTH 495 - Undergraduate Research in Plant Pathology **Credits:** 0-3
- PSYCH 599 - Research in Psychology **Credits:** 0-18
- WOEM 495 - Undergraduate Research in Wildlife and Outdoor Enterprise Management **Credits:** 0-3

Courses From Other Departments (except research courses):

Choose from the Course list below no more than 6 credits that can be used from "Courses From Other Departments (except research courses)".

- AGCOM 712 - Environmental Communication **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGRON 205 - Soils **Credits:** 3
- AGRON 251 - Range Management **Credits:** 3
- AGRON 335 - Environmental Quality **Credits:** 3
- AGRON 610 - Biotechnology **Credits:** 3
- AGRON 620 - Applied Crop Physiology **Credits:** 3
- AGRON 630 - Crop Improvement and Biotechnology **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AGRON 646 - Soil Microbiology Laboratory **Credits:** 1
- AGRON 660 - Grassland Monitoring and Assessment **Credits:** 2
- AGRON 680 - Plant Genetics **Credits:** 3
- AGRON 682 - Grassland Fire Ecology **Credits:** 3
- AGRON 695 - Climate Change and Agriculture **Credits:** 3
- AGRON 781 - Ecology of Invasive Species **Credits:** 3
- AP 600 - Introduction to Pharmacology for Health Professionals **Credits:** 3
- AP 711 - Stem Cells and Comparative Biomedicine **Credits:** 2
- ASI 218 - Fundamentals of Nutrition **Credits:** 3
- ASI 533 - Physiology of Domestic Animals **Credits:** 3
- ASI 540 - Principles of Animal Disease Control **Credits:** 3
- ASI 560 - Course-Based Undergraduate Research in Animal Sciences & Industry **Credits:** 2
- ASI 658 - Animal Growth and Development **Credits:** 3
- BAE 445 - Biological Engineering Fundamentals **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3
- BIOCH 571 - Medical Biochemistry **Credits:** 3
- BIOCH 755 - Biochemistry I **Credits:** 3
- BIOCH 756 - Biochemistry I Laboratory **Credits:** 2
- BIOCH 757 - NMR Laboratory **Credits:** 1
- BIOCH 758 - Protein Structure Laboratory **Credits:** 1
- BIOCH 765 - Biochemistry II **Credits:** 3
- BIOCH 766 - Recombinant DNA Laboratory I **Credits:** 1
- BIOCH 767 - Recombinant DNA Laboratory II **Credits:** 1

- BIOCH 775 - Molecular Biophysics **Credits:** 3
- CHM 315 - Environmental Science: A Chemistry Perspective **Credits:** 3
- DMP 690 - Essential Practices for BSL-3 Research Settings **Credits:** 1
- DMP 691 - Introduction to High Containment Laboratory Topics and Techniques **Credits:** 3
- DMP 710 - Introduction to One Health **Credits:** 2
- DMP 754 - Introduction to Epidemiology **Credits:** 3
- DMP 770 - Emerging Diseases **Credits:** 3
- ECON 527 - Environmental Economics **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- ENTOM 625 - Integrative Behavioral Ecology **Credits:** 3
- ENTOM 630 - Introduction to Molecular Entomology **Credits:** 2
- ENTOM 635 - Insect Evolution **Credits:** 3
- ENTOM 649 - Introduction to Arthropod Vectors of Human Pathogens **Credits:** 3
- ENTOM 652 - Introduction to Insect Molecular Techniques **Credits:** 2
- ENTOM 660 - Introduction to Insect Genetics **Credits:** 3
- ENTOM 675 - Introduction to Insect Physiology **Credits:** 3
- ENTOM 692 - Insect Ecology **Credits:** 3
- ENTOM 695 - Insect Taxonomy **Credits:** 3
- FDSCI 600 - Food Microbiology **Credits:** 2
- FDSCI 601 - Food Microbiology Lab **Credits:** 2
- FNDH 400 - Human Nutrition **Credits:** 3
- FNDH 620 - Nutrient Metabolism **Credits:** 3
- FNDH 654 - Pathophysiology and Clinical Evaluation **Credits:** 3
- GEOG 445 - Biogeography **Credits:** 3
- GEOG 460 - Human Dimensions of Global Change **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- GEOG 605 - Remote Sensing of the Environment **Credits:** 3
- GEOG 608 - Geographic Information Systems II **Credits:** 3
- GEOG 761 - Human Impact on the Environment **Credits:** 3
- KIN 601 - Cardiorespiratory Physiology **Credits:** 3
- KIN 603 - Cardiovascular Physiology **Credits:** 3
- KIN 607 - Muscle Physiology **Credits:** 3
- KIN 609 - Environmental Physiology **Credits:** 3
- KIN 611 - Autonomic Neurophysiology **Credits:** 3
- KIN 615 - Cardiorespiratory/Comparative Physiology in Health and Disease **Credits:** 3
- KIN 617 - Signaling Pathways in Physiology **Credits:** 3
- KIN 657 - Integrative Human Pathophysiology **Credits:** 3
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- PHILO 595 - Environmental Ethics **Credits:** 3
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3
- PLPTH 585 - Crop Diseases **Credits:** 2
- PLPTH 610 - Biotechnology **Credits:** 3
- PSYCH 470 - Principles of Neuroscience **Credits:** 3
- PSYCH 570 - Psychopharmacology **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
- WOEM 400 - Pond and Sportfish Management **Credits:** 3

- WOEM 555 - Big Game Management **Credits:** 3
- WOEM 560 - Upland Game Bird Management **Credits:** 3
- WOEM 561 - Waterfowl and Wetlands Management **Credits:** 3
- WOEM 562 - Advanced Wildlife Habitat Management **Credits:** 4
- WOEM 620 - Human-Wildlife Conflicts **Credits:** 3

BA Arts, Humanities, and Social Sciences Restrictive Electives: 9 credit hours

3 credit hours in each of the following, with at least 6 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities: 3 credit hours

Any course or combination of courses in Fine Arts: 3 credit hours

One Non-Quantitative Social Science Course: 3 credit hours

Choose any Social course that does NOT have a MATH or STAT prereq.

BA Second Language Requirement: 3-16 credit hours

Choose one of the following:

Option 1: (3-14 credit hours)

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: (16 credit hours)

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: (3 credit hours)

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 3-8 credit hours

In addition to the K-State Core Free Electives requirement, take any course so that the total number of credit hours completed is 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

Natural and Quantitative (at least one at the 300 level or with a prerequisite)

- Natural Science: CHM 210 or CHM 220 (listed in Courses Required for the Biology Degree)
- Additional Natural Science, Quantitative, or Quantitative Social Social: covered by Quantitative: BIOL 450

Bachelor of Science

Biology - Animal Biology (BS)

A degree in biology provides students with the skills to succeed in diverse careers and tackle the challenges faced by society. Biology is a valuable major for students going into human health and veterinary disciplines, and graduate programs ranging from molecular biology to organismal biology to ecology, as well as a diversity of bachelor's-level jobs. In addition to the curriculum requirements of the University and College of Arts and Sciences, students earning a biology BS must take courses indicated below and choose one of the seven tracks to complete.

Pre-vet option - Biology

Students who complete the K-State Core, College of Arts and Sciences Program requirements and Biology Major Requirements, with the exception of up to 15 credit hours from courses under their declared degree sub-option (Animal Biology, Cellular and Molecular Biology, Ecology and Evolutionary Biology, Human Health Biology, Integrative Biology, Plant Biology, or Computational Biology) and Biology Elective requirements, and have a minimum of 90 undergraduate credit hours prior to enrolling in the College of Veterinary Medicine at K-State, may earn a Biology degree after successful completion of at least 30 credit hours in veterinary medical school.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 credit hour

- BIOL 100 - Biology First-Year Orientation **Credits:** 1
  OR
- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 4-9+ credit hours

Outside credential of at least 9 credit hours (May be from any unit, **except for Biology** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for BIOL**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] credit hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Biology Requirements: 38-47 credit hours

Credit total assumes MATH 220 counted as part of the K-State Core 3

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 398 - Principles of Genetics **Credits:** 4
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
  KSC-030
- BIOL 520 - Evolution **Credits:** 3
  OR
- BIOL 521 - Evolution of Infectious Diseases **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
  Alternatively, BIOCH 755, with BIOCH 765 recommended for students planning on further study in cellular or molecular areas of biology or in biochemistry.
- CHM 210 - Chemistry I **Credits:** 4
  OR
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
  OR
- CHM 250 - Honors Chemistry II **Credits:** 5
- CHM 350 - General Organic Chemistry **Credits:** 3
  Alternatively, CHM 531, with CHM 550 recommended for students planning to attend medical school or to pursue further study in cellular or molecular areas of biology or in biochemistry.
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
  OR
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2

- PHYS 113 - General Physics I **Credits:** 4
  OR
- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 114 - General Physics II **Credits:** 4
  OR
- PHYS 214 - Engineering Physics II **Credits:** 5
  Choose one course from the list below:
- CC 210 - Fundamental Computer Programming Concepts **Credits:** 4
- CIS 200 - Programming Fundamentals **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- MATH 551 - Applied Matrix Theory **Credits:** 3
- MATH 615 - Introduction to Digital Image Processing **Credits:** 3
- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 701 - Fundamental Methods of Biostatistics **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
- CC 110 - Introduction to Computing **Credits:** 2
  AND
- CC 111 - Elements of Computer Programming **Credits:** 1

Animal Biology Option: 12 credit hours

- BIOL 221 - Organismic Biology **Credits:** 5
- BIOL 513 - Physiological Adaptations of Animals **Credits:** 4
- BIOL 541 - Cell Biology **Credits:** 3

Major Electives: 14 credit hours

Choose 14 credit hours from the lists below, including no more than 3 credits numbered 399 or lower. BIOL 255 Microbiology can be included and will not be counted toward the allowed 3 credits numbered 399 or lower. Must include one lab class. Courses used here may not be used elsewhere.

Biology courses (other than BIOL 695 and BIOL 698).
Biology course listing can be found in the University Course Catalog.
Research Courses - Choose no more than 3 credit hours from the list below:
Choose from the Course list below. No more than 3 credit hours from all Research Courses combined can be used toward BIOL electives.

- AGRON 598 - Undergraduate Research in Agronomy **Credits:** 0-18
- AP 790 - Problems in Anatomy and Physiology **Credits:** 1-18
- ASI 561 - Undergraduate Research in Animal Sciences & Industry **Credits:** 0-3
- BAE 497 - Undergraduate Research Experience **Credits:** 0-3
- BAE 499 - Honors Research in Biological Systems Engineering **Credits:** 1-18
- BIOCH 599 - Research Training in Biochemistry **Credits:** 1-3
- BIOL 695 - Internship in Biology **Credits:** 1-3
- BIOL 698 - Research in Biology **Credits:** 0-8
- CHE 497 - Undergraduate Research Experience **Credits:** 0-3
- CHM 497 - Research in Undergraduate Chemistry **Credits:** 1-3
- DAS 400 - Undergraduate Research in Arts and Sciences **Credits:** 0-3

- DAS 506 - Undergraduate Cancer Research **Credits:** 1
- DMP 680 - Problems in Pathobiology **Credits:** 1-5
- ENTOM 482 - Research Experience in Entomology **Credits:** 1-3
- GEOG 497 - Undergraduate Research in Geography **Credits:** 1-3
- KIN 597 - Research Experience in Kinesiology **Credits:** 0-3
- PLPTH 495 - Undergraduate Research in Plant Pathology **Credits:** 0-3
- PSYCH 599 - Research in Psychology **Credits:** 0-18
- WOEM 495 - Undergraduate Research in Wildlife and Outdoor Enterprise Management **Credits:** 0-3

Courses From Other Departments (except research courses):

Choose from the Course list below. No more than 6 credits can be used from "Courses From Other Departments (except research courses)". Research courses do not count toward 6 credit total limit.

- AGCOM 712 - Environmental Communication **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGRON 205 - Soils **Credits:** 3
- AGRON 251 - Range Management **Credits:** 3
- AGRON 335 - Environmental Quality **Credits:** 3
- AGRON 610 - Biotechnology **Credits:** 3
- AGRON 620 - Applied Crop Physiology **Credits:** 3
- AGRON 630 - Crop Improvement and Biotechnology **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AGRON 646 - Soil Microbiology Laboratory **Credits:** 1
- AGRON 660 - Grassland Monitoring and Assessment **Credits:** 2
- AGRON 661 - Grassland Monitoring and Assessment Lab **Credits:** 1
- AGRON 680 - Plant Genetics **Credits:** 3
- AGRON 681 - Range Ecology **Credits:** 3
- AGRON 682 - Grassland Fire Ecology **Credits:** 3
- AGRON 695 - Climate Change and Agriculture **Credits:** 3
- AGRON 781 - Ecology of Invasive Species **Credits:** 3
- AP 600 - Introduction to Pharmacology for Health Professionals **Credits:** 3
- AP 641 - Histology for Health Professions **Credits:** 3
- AP 711 - Stem Cells and Comparative Biomedicine **Credits:** 2
- ASI 218 - Fundamentals of Nutrition **Credits:** 3
- ASI 533 - Physiology of Domestic Animals **Credits:** 3
- ASI 540 - Principles of Animal Disease Control **Credits:** 3
- ASI 560 - Course-Based Undergraduate Research in Animal Sciences & Industry **Credits:** 2
- ASI 658 - Animal Growth and Development **Credits:** 3
- BAE 445 - Biological Engineering Fundamentals **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3
- BIOCH 571 - Medical Biochemistry **Credits:** 3
- BIOCH 755 - Biochemistry I **Credits:** 3
- BIOCH 756 - Biochemistry I Laboratory **Credits:** 2
- BIOCH 757 - NMR Laboratory **Credits:** 1
- BIOCH 758 - Protein Structure Laboratory **Credits:** 1
- BIOCH 765 - Biochemistry II **Credits:** 3
- BIOCH 766 - Recombinant DNA Laboratory I **Credits:** 1
- BIOCH 767 - Recombinant DNA Laboratory II **Credits:** 1

- BIOCH 775 - Molecular Biophysics **Credits:** 3
- CHM 315 - Environmental Science: A Chemistry Perspective **Credits:** 3
- DMP 690 - Essential Practices for BSL-3 Research Settings **Credits:** 1
- DMP 691 - Introduction to High Containment Laboratory Topics and Techniques **Credits:** 3
- DMP 710 - Introduction to One Health **Credits:** 2
- DMP 754 - Introduction to Epidemiology **Credits:** 3
- DMP 770 - Emerging Diseases **Credits:** 3
- ECON 527 - Environmental Economics **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- ENTOM 625 - Integrative Behavioral Ecology **Credits:** 3
- ENTOM 630 - Introduction to Molecular Entomology **Credits:** 2
- ENTOM 635 - Insect Evolution **Credits:** 3
- ENTOM 649 - Introduction to Arthropod Vectors of Human Pathogens **Credits:** 3
- ENTOM 652 - Introduction to Insect Molecular Techniques **Credits:** 2
- ENTOM 660 - Introduction to Insect Genetics **Credits:** 3
- ENTOM 675 - Introduction to Insect Physiology **Credits:** 3
- ENTOM 692 - Insect Ecology **Credits:** 3
- ENTOM 695 - Insect Taxonomy **Credits:** 3
- FDSCI 600 - Food Microbiology **Credits:** 2
- FDSCI 601 - Food Microbiology Lab **Credits:** 2
- FNDH 400 - Human Nutrition **Credits:** 3
- FNDH 620 - Nutrient Metabolism **Credits:** 3
- FNDH 654 - Pathophysiology and Clinical Evaluation **Credits:** 3
- GEOG 445 - Biogeography **Credits:** 3
- GEOG 460 - Human Dimensions of Global Change **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- GEOG 605 - Remote Sensing of the Environment **Credits:** 3
- GEOG 608 - Geographic Information Systems II **Credits:** 3
- GEOG 761 - Human Impact on the Environment **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3
- KIN 601 - Cardiorespiratory Physiology **Credits:** 3
- KIN 603 - Cardiovascular Physiology **Credits:** 3
- KIN 607 - Muscle Physiology **Credits:** 3
- KIN 609 - Environmental Physiology **Credits:** 3
- KIN 611 - Autonomic Neurophysiology **Credits:** 3
- KIN 615 - Cardiorespiratory/Comparative Physiology in Health and Disease **Credits:** 3
- KIN 617 - Signaling Pathways in Physiology **Credits:** 3
- KIN 657 - Integrative Human Pathophysiology **Credits:** 3
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- PHILO 595 - Environmental Ethics **Credits:** 3
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3
- PLPTH 585 - Crop Diseases **Credits:** 2
- PLPTH 610 - Biotechnology **Credits:** 3
- PSYCH 470 - Principles of Neuroscience **Credits:** 3
- PSYCH 570 - Psychopharmacology **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

- WOEM 620 - Human-Wildlife Conflicts **Credits:** 3
- WOEM 400 - Pond and Sportfish Management **Credits:** 3
- WOEM 555 - Big Game Management **Credits:** 3
- WOEM 560 - Upland Game Bird Management **Credits:** 3
- WOEM 561 - Waterfowl and Wetlands Management **Credits:** 3
- WOEM 562 - Advanced Wildlife Habitat Management **Credits:** 4

BS Arts, Humanities, and Social Sciences Restrictive Electives: 6 credit hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above **OR** at any level with a prerequisite in the same discipline.

Fine Arts or Humanities Course: 3 credit hours

Non-Quantitative Social Science Course: 3 credit hours

Choose any social science course that does NOT have a MATH or STAT prereq

Free Electives: 5-10 credit hours

In addition to the K-State Core Free Electives requirement, take any course so that the total number of credit hours completed is 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

Natural and Quantitative

- Natural Science: CHM 210 or CHM 220 (listed in Courses Required for the Biology Degree)
- Quantitative: STAT 225, STAT 240, STAT 701, STAT 703; MATH 221, MATH 551, MATH 615; CC 110 plus CC 111, CC 210; CIS 200 (listed in Courses Required for the Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) CHM 230 or CHM 250 (listed in Courses Required for the Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) BIOL 398/450 (listed in Courses Required for the Biology Degree)

Biology - Cellular and Molecular Biology (BS)

A degree in biology provides students with the skills to succeed in diverse careers and tackle the challenges faced by society. Biology is a valuable major for students going into human health and veterinary disciplines, and graduate programs ranging from molecular biology to organismal biology to ecology, as well as a diversity of bachelor's-level jobs. In addition to the curriculum requirements of the University and College of Arts and Sciences, students earning a biology BS must take courses indicated below and choose one of the seven tracks to complete.

Pre-vet option - Biology

Students who complete the K-State Core, College of Arts and Sciences Program requirements and Biology Major Requirements, with the exception of up to 15 credit hours from courses under their declared degree sub-option (Animal Biology, Cellular and

Molecular Biology, Ecology and Evolutionary Biology, Human Health Biology, Integrative Biology, Plant Biology, or Computational Biology) and Biology Elective requirements, and have a minimum of 90 undergraduate credit hours prior to enrolling in the College of Veterinary Medicine at K-State, may earn a Biology degree after successful completion of at least 30 credit hours in veterinary medical school.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 credit hour

- BIOL 100 - Biology First-Year Orientation **Credits:** 1
  OR
- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 4-9+ credit hours

Outside credential of at least 9 credit hours (May be from any unit, **except for Biology** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for BIOL**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] credit hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Biology Requirements: 38-47 credit hours

Credit total assumes MATH 220 counted as part of the K-State Core 3

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 398 - Principles of Genetics **Credits:** 4
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
  KSC-030
- BIOL 520 - Evolution **Credits:** 3
  OR
- BIOL 521 - Evolution of Infectious Diseases **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
  Alternatively, BIOCH 755, with BIOCH 765 recommended for students planning on further study in cellular or molecular areas of biology or in biochemistry.
- CHM 210 - Chemistry I **Credits:** 4
  OR
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
  OR
- CHM 250 - Honors Chemistry II **Credits:** 5
- CHM 350 - General Organic Chemistry **Credits:** 3
  Alternatively, CHM 531, with CHM 550 recommended for students planning to attend medical school or to pursue further study in cellular or molecular areas of biology or in biochemistry.
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
  OR
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
- PHYS 113 - General Physics I **Credits:** 4
  OR
- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 114 - General Physics II **Credits:** 4
  OR
- PHYS 214 - Engineering Physics II **Credits:** 5
  Choose once course from the list below:
- CC 210 - Fundamental Computer Programming Concepts **Credits:** 4
- CIS 200 - Programming Fundamentals **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- MATH 551 - Applied Matrix Theory **Credits:** 3
- MATH 615 - Introduction to Digital Image Processing **Credits:** 3
- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 701 - Fundamental Methods of Biostatistics **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
- CC 110 - Introduction to Computing **Credits:** 2
  AND
- CC 111 - Elements of Computer Programming **Credits:** 1

Cellular and Molecular Biology Option: 13 credit hours

- BIOL 255 - General Microbiology **Credits:** 4
- BIOL 541 - Cell Biology **Credits:** 3
- BIOL 580 - Molecular Biology of Genes and Genomes **Credits:** 3

Choose one course (at least 3cr) from the list below:

- BIOL 461 - Phage Hunters I **Credits:** 3
- BIOL 676 - Molecular Genetics Laboratory **Credits:** 3
- BIOL 695 - Internship in Biology **Credits:** 1-3
- BIOL 698 - Research in Biology **Credits:** 0-8

Major Electives: 13 credit hours

Choose 14 credit hours from the lists below, including no more than 3 credits numbered 399 or lower. BIOL 221 Organismic Biology can be included and will not be counted toward the allowed 3 credits numbered 399 or lower. Must include two lab classes. Courses used here may not be used elsewhere.

Biology courses (other than BIOL 695 and BIOL 698).
Biology course listing can be found in the University Course Catalog.
Research Courses - Choose no more than 3 credit hours from the list below:
Choose from the Course list below. No more than 3 credit hours from all Research Courses combined can be used toward BIOL electives.

- AGRON 598 - Undergraduate Research in Agronomy **Credits:** 0-18
- AP 790 - Problems in Anatomy and Physiology **Credits:** 1-18
- ASI 561 - Undergraduate Research in Animal Sciences & Industry **Credits:** 0-3
- BAE 497 - Undergraduate Research Experience **Credits:** 0-3
- BAE 499 - Honors Research in Biological Systems Engineering **Credits:** 1-18
- BIOCH 599 - Research Training in Biochemistry **Credits:** 1-3
- BIOL 695 - Internship in Biology **Credits:** 1-3
- BIOL 698 - Research in Biology **Credits:** 0-8
- CHE 497 - Undergraduate Research Experience **Credits:** 0-3
- CHM 497 - Research in Undergraduate Chemistry **Credits:** 1-3
- DAS 400 - Undergraduate Research in Arts and Sciences **Credits:** 0-3
- DAS 506 - Undergraduate Cancer Research **Credits:** 1
- DMP 680 - Problems in Pathobiology **Credits:** 1-5
- ENTOM 482 - Research Experience in Entomology **Credits:** 1-3
- GEOG 497 - Undergraduate Research in Geography **Credits:** 1-3
- KIN 597 - Research Experience in Kinesiology **Credits:** 0-3
- PLPTH 495 - Undergraduate Research in Plant Pathology **Credits:** 0-3
- PSYCH 599 - Research in Psychology **Credits:** 0-18
- WOEM 495 - Undergraduate Research in Wildlife and Outdoor Enterprise Management **Credits:** 0-3

Courses From Other Departments (except research courses):
Choose from the Course list below. No more than 6 credits can be used from "Courses From Other Departments (except research courses)". Research courses do not count toward the 6 credit total limit.

- AGCOM 712 - Environmental Communication **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGRON 205 - Soils **Credits:** 3

- AGRON 251 - Range Management **Credits:** 3
- AGRON 335 - Environmental Quality **Credits:** 3
- AGRON 610 - Biotechnology **Credits:** 3
- AGRON 620 - Applied Crop Physiology **Credits:** 3
- AGRON 630 - Crop Improvement and Biotechnology **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AGRON 646 - Soil Microbiology Laboratory **Credits:** 1
- AGRON 660 - Grassland Monitoring and Assessment **Credits:** 2
- AGRON 661 - Grassland Monitoring and Assessment Lab **Credits:** 1
- AGRON 680 - Plant Genetics **Credits:** 3
- AGRON 681 - Range Ecology **Credits:** 3
- AGRON 682 - Grassland Fire Ecology **Credits:** 3
- AGRON 695 - Climate Change and Agriculture **Credits:** 3
- AGRON 781 - Ecology of Invasive Species **Credits:** 3
- AP 600 - Introduction to Pharmacology for Health Professionals **Credits:** 3
- AP 641 - Histology for Health Professions **Credits:** 3
- AP 711 - Stem Cells and Comparative Biomedicine **Credits:** 2
- ASI 218 - Fundamentals of Nutrition **Credits:** 3
- ASI 533 - Physiology of Domestic Animals **Credits:** 3
- ASI 540 - Principles of Animal Disease Control **Credits:** 3
- ASI 560 - Course-Based Undergraduate Research in Animal Sciences & Industry **Credits:** 2
- ASI 658 - Animal Growth and Development **Credits:** 3
- BAE 445 - Biological Engineering Fundamentals **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3
- BIOCH 571 - Medical Biochemistry **Credits:** 3
- BIOCH 755 - Biochemistry I **Credits:** 3
- BIOCH 756 - Biochemistry I Laboratory **Credits:** 2
- BIOCH 757 - NMR Laboratory **Credits:** 1
- BIOCH 758 - Protein Structure Laboratory **Credits:** 1
- BIOCH 765 - Biochemistry II **Credits:** 3
- BIOCH 766 - Recombinant DNA Laboratory I **Credits:** 1
- BIOCH 767 - Recombinant DNA Laboratory II **Credits:** 1
- BIOCH 775 - Molecular Biophysics **Credits:** 3
- CHM 315 - Environmental Science: A Chemistry Perspective **Credits:** 3
- DMP 690 - Essential Practices for BSL-3 Research Settings **Credits:** 1
- DMP 691 - Introduction to High Containment Laboratory Topics and Techniques **Credits:** 3
- DMP 710 - Introduction to One Health **Credits:** 2
- DMP 754 - Introduction to Epidemiology **Credits:** 3
- DMP 770 - Emerging Diseases **Credits:** 3
- ECON 527 - Environmental Economics **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- ENTOM 625 - Integrative Behavioral Ecology **Credits:** 3
- ENTOM 630 - Introduction to Molecular Entomology **Credits:** 2
- ENTOM 635 - Insect Evolution **Credits:** 3
- ENTOM 649 - Introduction to Arthropod Vectors of Human Pathogens **Credits:** 3
- ENTOM 652 - Introduction to Insect Molecular Techniques **Credits:** 2

- ENTOM 660 - Introduction to Insect Genetics **Credits:** 3
- ENTOM 675 - Introduction to Insect Physiology **Credits:** 3
- ENTOM 692 - Insect Ecology **Credits:** 3
- ENTOM 695 - Insect Taxonomy **Credits:** 3
- FDSCI 600 - Food Microbiology **Credits:** 2
- FDSCI 601 - Food Microbiology Lab **Credits:** 2
- FNDH 400 - Human Nutrition **Credits:** 3
- FNDH 620 - Nutrient Metabolism **Credits:** 3
- FNDH 654 - Pathophysiology and Clinical Evaluation **Credits:** 3
- GEOG 445 - Biogeography **Credits:** 3
- GEOG 460 - Human Dimensions of Global Change **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- GEOG 605 - Remote Sensing of the Environment **Credits:** 3
- GEOG 608 - Geographic Information Systems II **Credits:** 3
- GEOG 761 - Human Impact on the Environment **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3
- KIN 601 - Cardiorespiratory Physiology **Credits:** 3
- KIN 603 - Cardiovascular Physiology **Credits:** 3
- KIN 607 - Muscle Physiology **Credits:** 3
- KIN 609 - Environmental Physiology **Credits:** 3
- KIN 611 - Autonomic Neurophysiology **Credits:** 3
- KIN 615 - Cardiorespiratory/Comparative Physiology in Health and Disease **Credits:** 3
- KIN 617 - Signaling Pathways in Physiology **Credits:** 3
- KIN 657 - Integrative Human Pathophysiology **Credits:** 3
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- PHILO 595 - Environmental Ethics **Credits:** 3
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3
- PLPTH 585 - Crop Diseases **Credits:** 2
- PLPTH 610 - Biotechnology **Credits:** 3
- PSYCH 470 - Principles of Neuroscience **Credits:** 3
- PSYCH 570 - Psychopharmacology **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
- WOEM 400 - Pond and Sportfish Management **Credits:** 3
- WOEM 555 - Big Game Management **Credits:** 3
- WOEM 560 - Upland Game Bird Management **Credits:** 3
- WOEM 561 - Waterfowl and Wetlands Management **Credits:** 3
- WOEM 562 - Advanced Wildlife Habitat Management **Credits:** 4
- WOEM 620 - Human-Wildlife Conflicts **Credits:** 3

BS Arts, Humanities, and Social Sciences Restrictive Electives: 6 credit hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities Course: 3 credit hours

Any course or combination of courses.

Non-Quantitative Social Science Course: 3 credit hours

Choose any social science course that does NOT have a MATH or STAT prereq

Free Electives: 5-10 credit hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

Natural and Quantitative

- Natural Science: CHM 210 or CHM 220 (listed in Courses Required for the Biology Degree)
- Quantitative: STAT 225, STAT 240, STAT 701, STAT 703; MATH 221, MATH 551, MATH 615; CC 110 plus CC 111, CC 210; CIS 200 (listed in Courses Required for the Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) CHM 230 or CHM 250 (listed in Courses Required for the Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) BIOL 450 (listed in Courses Required for the Biology Degree)

Biology - Computational Biology (BS)

A degree in biology provides students with the skills to succeed in diverse careers and tackle the challenges faced by society. Biology is a valuable major for students going into human health and veterinary disciplines, and graduate programs ranging from molecular biology to organismal biology to ecology, as well as a diversity of bachelor's-level jobs. In addition to the curriculum requirements of the University and College of Arts and Sciences, students earning a biology BS must take courses indicated below and choose one of the seven tracks to complete.

Pre-vet option - Biology

Students who complete the K-State Core, College of Arts and Sciences Program requirements and Biology Major Requirements, with the exception of up to 15 credit hours from courses under their declared degree sub-option (Animal Biology, Cellular and Molecular Biology, Ecology and Evolutionary Biology, Human Health Biology, Integrative Biology, Plant Biology, or Computational Biology) and Biology Elective requirements, and have a minimum of 90 undergraduate credit hours prior to enrolling in the College of Veterinary Medicine at K-State, may earn a Biology degree after successful completion of at least 30 credit hours in veterinary medical school.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional

general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 credit hour

- BIOL 100 - Biology First-Year Orientation **Credits:** 1
  OR
- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 4-9+ credit hours

Outside credential of at least 9 credit hours (May be from any unit except for Biology, OR approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for BIOL) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with the program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] credit hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Biology Requirements: 38-43 credit hours

Credit total assumes MATH 220 counted as part of the K-State Core 3

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 398 - Principles of Genetics **Credits:** 4
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
  KSC-030
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

- BIOL 520 - Evolution **Credits:** 3
  OR
- BIOL 521 - Evolution of Infectious Diseases **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
  Alternatively, BIOCH 755, with BIOCH 765 recommended for students planning on further study in cellular or molecular areas of biology or in biochemistry.
- CHM 210 - Chemistry I **Credits:** 4
  OR
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
  OR
- CHM 250 - Honors Chemistry II **Credits:** 5
- CHM 350 - General Organic Chemistry **Credits:** 3
  Alternatively, CHM 531, with CHM 550 recommended for students planning to attend medical school or to pursue further study in cellular or molecular areas of biology or in biochemistry.
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
  OR
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
- PHYS 113 - General Physics I **Credits:** 4
  OR
- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 114 - General Physics II **Credits:** 4
  OR
- PHYS 214 - Engineering Physics II **Credits:** 5

Computational Biology Option: 30 credit hours

- BIOL 734 - Introduction to Genomics and Bioinformatics **Credits:** 4
- CC 110 - Introduction to Computing **Credits:** 2
- CC 111 - Elements of Computer Programming **Credits:** 1
- CC 210 - Fundamental Computer Programming Concepts **Credits:** 4
- CC 310 - Data Structures and Algorithms I **Credits:** 3
- CC 410 - Advanced Programming **Credits:** 4
- MATH 312 - Finite Applications of Mathematics **Credits:** 3
- CIS 531 - Introduction to Programming Techniques for Data Science and Analytics **Credits:** 3
  OR
  Choose two courses (6 credits) from BIOL, STAT, CC, CIS, or MATH at course level 400 or above
- CC 535 - Applied Data Science **Credits:** 3

Major Electives: 10 credit hours

Choose 10 credit hours from the lists below, including no more than 3 credits numbered 399 or lower. BIOL 221 Organismic Biology and BIOL 255 Microbiology can be included and will not be counted toward the allowed 3 credits numbered 399 or lower. Courses used here may not be used elsewhere.

Biology courses (other than BIOL 695 and BIOL 698).
Biology course listing can be found in the University Course Catalog.
Research Courses - Choose no more than 3 credit hours from the list below:

Choose from the Course list below. No more than 3 credit hours from all Research Courses combined can be used toward BIOL electives.

- AGRON 598 - Undergraduate Research in Agronomy **Credits:** 0-18
- AP 790 - Problems in Anatomy and Physiology **Credits:** 1-18
- ASI 561 - Undergraduate Research in Animal Sciences & Industry **Credits:** 0-3
- BAE 497 - Undergraduate Research Experience **Credits:** 0-3
- BAE 499 - Honors Research in Biological Systems Engineering **Credits:** 1-18
- BIOCH 599 - Research Training in Biochemistry **Credits:** 1-3
- BIOL 695 - Internship in Biology **Credits:** 1-3
- BIOL 698 - Research in Biology **Credits:** 0-8
- CHE 497 - Undergraduate Research Experience **Credits:** 0-3
- CHM 497 - Research in Undergraduate Chemistry **Credits:** 1-3
- DAS 400 - Undergraduate Research in Arts and Sciences **Credits:** 0-3
- DAS 506 - Undergraduate Cancer Research **Credits:** 1
- DMP 680 - Problems in Pathobiology **Credits:** 1-5
- ENTOM 482 - Research Experience in Entomology **Credits:** 1-3
- GEOG 497 - Undergraduate Research in Geography **Credits:** 1-3
- KIN 597 - Research Experience in Kinesiology **Credits:** 0-3
- PLPTH 495 - Undergraduate Research in Plant Pathology **Credits:** 0-3
- PSYCH 599 - Research in Psychology **Credits:** 0-18
- WOEM 495 - Undergraduate Research in Wildlife and Outdoor Enterprise Management **Credits:** 0-3

Courses From Other Departments (except research courses):

Choose from the Course list below. No more than 6 credits can be used from "Courses From Other Departments (except research courses)". Research courses do not count toward the 6 credit total limit.

- AGCOM 712 - Environmental Communication **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGRON 205 - Soils **Credits:** 3
- AGRON 251 - Range Management **Credits:** 3
- AGRON 335 - Environmental Quality **Credits:** 3
- AGRON 610 - Biotechnology **Credits:** 3
- AGRON 620 - Applied Crop Physiology **Credits:** 3
- AGRON 630 - Crop Improvement and Biotechnology **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AGRON 646 - Soil Microbiology Laboratory **Credits:** 1
- AGRON 660 - Grassland Monitoring and Assessment **Credits:** 2
- AGRON 661 - Grassland Monitoring and Assessment Lab **Credits:** 1
- AGRON 680 - Plant Genetics **Credits:** 3
- AGRON 681 - Range Ecology **Credits:** 3
- AGRON 682 - Grassland Fire Ecology **Credits:** 3
- AGRON 695 - Climate Change and Agriculture **Credits:** 3
- AGRON 781 - Ecology of Invasive Species **Credits:** 3
- AP 600 - Introduction to Pharmacology for Health Professionals **Credits:** 3
- AP 641 - Histology for Health Professions **Credits:** 3
- AP 711 - Stem Cells and Comparative Biomedicine **Credits:** 2
- ASI 218 - Fundamentals of Nutrition **Credits:** 3
- ASI 533 - Physiology of Domestic Animals **Credits:** 3

- ASI 540 - Principles of Animal Disease Control **Credits:** 3
- ASI 560 - Course-Based Undergraduate Research in Animal Sciences & Industry **Credits:** 2
- ASI 658 - Animal Growth and Development **Credits:** 3
- BAE 445 - Biological Engineering Fundamentals **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3
- BIOCH 571 - Medical Biochemistry **Credits:** 3
- BIOCH 755 - Biochemistry I **Credits:** 3
- BIOCH 756 - Biochemistry I Laboratory **Credits:** 2
- BIOCH 757 - NMR Laboratory **Credits:** 1
- BIOCH 758 - Protein Structure Laboratory **Credits:** 1
- BIOCH 765 - Biochemistry II **Credits:** 3
- BIOCH 766 - Recombinant DNA Laboratory I **Credits:** 1
- BIOCH 767 - Recombinant DNA Laboratory II **Credits:** 1
- BIOCH 775 - Molecular Biophysics **Credits:** 3
- CHM 315 - Environmental Science: A Chemistry Perspective **Credits:** 3
- DMP 690 - Essential Practices for BSL-3 Research Settings **Credits:** 1
- DMP 691 - Introduction to High Containment Laboratory Topics and Techniques **Credits:** 3
- DMP 710 - Introduction to One Health **Credits:** 2
- DMP 754 - Introduction to Epidemiology **Credits:** 3
- DMP 770 - Emerging Diseases **Credits:** 3
- ECON 527 - Environmental Economics **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- ENTOM 625 - Integrative Behavioral Ecology **Credits:** 3
- ENTOM 630 - Introduction to Molecular Entomology **Credits:** 2
- ENTOM 635 - Insect Evolution **Credits:** 3
- ENTOM 649 - Introduction to Arthropod Vectors of Human Pathogens **Credits:** 3
- ENTOM 652 - Introduction to Insect Molecular Techniques **Credits:** 2
- ENTOM 660 - Introduction to Insect Genetics **Credits:** 3
- ENTOM 675 - Introduction to Insect Physiology **Credits:** 3
- ENTOM 692 - Insect Ecology **Credits:** 3
- ENTOM 695 - Insect Taxonomy **Credits:** 3
- FDSCI 600 - Food Microbiology **Credits:** 2
- FDSCI 601 - Food Microbiology Lab **Credits:** 2
- FNDH 400 - Human Nutrition **Credits:** 3
- FNDH 620 - Nutrient Metabolism **Credits:** 3
- FNDH 654 - Pathophysiology and Clinical Evaluation **Credits:** 3
- GEOG 445 - Biogeography **Credits:** 3
- GEOG 460 - Human Dimensions of Global Change **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- GEOG 605 - Remote Sensing of the Environment **Credits:** 3
- GEOG 608 - Geographic Information Systems II **Credits:** 3
- GEOG 761 - Human Impact on the Environment **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3
- KIN 601 - Cardiorespiratory Physiology **Credits:** 3
- KIN 603 - Cardiovascular Physiology **Credits:** 3
- KIN 607 - Muscle Physiology **Credits:** 3

- KIN 609 - Environmental Physiology **Credits:** 3
- KIN 611 - Autonomic Neurophysiology **Credits:** 3
- KIN 615 - Cardiorespiratory/Comparative Physiology in Health and Disease **Credits:** 3
- KIN 617 - Signaling Pathways in Physiology **Credits:** 3
- KIN 657 - Integrative Human Pathophysiology **Credits:** 3
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- PHILO 595 - Environmental Ethics **Credits:** 3
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3
- PLPTH 585 - Crop Diseases **Credits:** 2
- PLPTH 610 - Biotechnology **Credits:** 3
- PSYCH 470 - Principles of Neuroscience **Credits:** 3
- PSYCH 570 - Psychopharmacology **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
- WOEM 400 - Pond and Sportfish Management **Credits:** 3
- WOEM 555 - Big Game Management **Credits:** 3
- WOEM 560 - Upland Game Bird Management **Credits:** 3
- WOEM 561 - Waterfowl and Wetlands Management **Credits:** 3
- WOEM 562 - Advanced Wildlife Habitat Management **Credits:** 4
- WOEM 620 - Human-Wildlife Conflicts **Credits:** 3

BS Arts, Humanities, and Social Sciences Restrictive Electives: 6 credit hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above **OR** at any level with a prerequisite in the same discipline.

Fine Arts or Humanities Course: 3 credit hours

Any course or combination of courses.

Non-Quantitative Social Science Course: 3 credit hours

Choose any social science course that does NOT have a MATH or STAT prereq

Free Electives: 0 credit hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

Natural and Quantitative

- Natural Science: CHM 210 or CHM 220 (listed in Courses Required for the Biology Degree)
- Quantitative: STAT 225, STAT 240, STAT 701, STAT 703; MATH 221, MATH 551, MATH 615; CC 110 plus CC 111, CC 210; CIS 200 (listed in Courses Required for the Biology Degree)

- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) CHM 230 or CHM 250 (listed in Courses Required for the Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) BIOL 450 (listed in Courses Required for the Biology Degree)

Biology - Ecology and Evolutionary Biology (BS)

A degree in biology provides students with the skills to succeed in diverse careers and tackle the challenges faced by society. Biology is a valuable major for students going into human health and veterinary disciplines, and graduate programs ranging from molecular biology to organismal biology to ecology, as well as a diversity of bachelor's-level jobs. In addition to the curriculum requirements of the University and College of Arts and Sciences, students earning a biology BS must take courses indicated below and choose one of the seven tracks to complete.

Pre-vet option - Biology

Students who complete the K-State Core, College of Arts and Sciences Program requirements and Biology Major Requirements, with the exception of up to 15 credit hours from courses under their declared degree sub-option (Animal Biology, Cellular and Molecular Biology, Ecology and Evolutionary Biology, Human Health Biology, Integrative Biology, Plant Biology, or Computational Biology) and Biology Elective requirements, and have a minimum of 90 undergraduate credit hours prior to enrolling in the College of Veterinary Medicine at K-State, may earn a Biology degree after successful completion of at least 30 credit hours in veterinary medical school.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 credit hour

- BIOL 100 - Biology First-Year Orientation **Credits:** 1
  OR
- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 4-9+ credit hours

Outside credential of at least 9 credit hours (May be from any unit, **except for Biology**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for BIOL**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] credit hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Biology Requirements: 38-47 credit hours

Credit total assumes MATH 220 counted as part of the K-State Core 3

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 398 - Principles of Genetics **Credits:** 4
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
  KSC-030
- BIOL 520 - Evolution **Credits:** 3
  OR
- BIOL 521 - Evolution of Infectious Diseases **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
  Alternatively, BIOCH 755, with BIOCH 765 recommended for students planning on further study in cellular or molecular areas of biology or in biochemistry.
- CHM 210 - Chemistry I **Credits:** 4
  OR
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
  OR
- CHM 250 - Honors Chemistry II **Credits:** 5
- CHM 350 - General Organic Chemistry **Credits:** 3
  Alternatively, CHM 531, with CHM 550 recommended for students planning to attend medical school or to pursue further study in cellular or molecular areas of biology or in biochemistry.
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
  OR
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
- PHYS 113 - General Physics I **Credits:** 4
  OR
- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 114 - General Physics II **Credits:** 4

OR

- PHYS 214 - Engineering Physics II **Credits:** 5

Choose one course from the list below:

- CC 210 - Fundamental Computer Programming Concepts **Credits:** 4
- CIS 200 - Programming Fundamentals **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- MATH 551 - Applied Matrix Theory **Credits:** 3
- MATH 615 - Introduction to Digital Image Processing **Credits:** 3
- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 701 - Fundamental Methods of Biostatistics **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
- CC 110 - Introduction to Computing **Credits:** 2

AND

- CC 111 - Elements of Computer Programming **Credits:** 1

Ecology and Evolutionary Biology Option:12 credit hours

- BIOL 221 - Organismic Biology **Credits:** 5
- BIOL 529 - Ecology **Credits:** 3
- BIOL 632 - Ecology Laboratory **Credits:** 1
- BIOL 640 - Population Biology **Credits:** 3

Major Electives: 14 credit hours

Choose 14 credit hours from the lists below, including no more than 3 credits numbered 399 or lower. BIOL 255 Microbiology can be included and will not be counted toward the allowed 3 credits numbered 399 or lower. Must include one lab class. Courses used here may not be used elsewhere.

Biology courses (other than BIOL 695 and BIOL 698).

Biology course listing can be found in the University Course Catalog.

Research Courses - Choose no more than 3 credit hours from the list below:

Choose from the Course list below. No more than 3 credit hours from all Research Courses combined can be used toward BIOL electives.

- AGRON 598 - Undergraduate Research in Agronomy **Credits:** 0-18
- AP 790 - Problems in Anatomy and Physiology **Credits:** 1-18
- ASI 561 - Undergraduate Research in Animal Sciences & Industry **Credits:** 0-3
- BAE 497 - Undergraduate Research Experience **Credits:** 0-3
- BAE 499 - Honors Research in Biological Systems Engineering **Credits:** 1-18
- BIOCH 599 - Research Training in Biochemistry **Credits:** 1-3
- BIOL 695 - Internship in Biology **Credits:** 1-3
- BIOL 698 - Research in Biology **Credits:** 0-8
- CHE 497 - Undergraduate Research Experience **Credits:** 0-3
- CHM 497 - Research in Undergraduate Chemistry **Credits:** 1-3
- DAS 400 - Undergraduate Research in Arts and Sciences **Credits:** 0-3
- DAS 506 - Undergraduate Cancer Research **Credits:** 1
- DMP 680 - Problems in Pathobiology **Credits:** 1-5

- ENTOM 482 - Research Experience in Entomology **Credits:** 1-3
- GEOG 497 - Undergraduate Research in Geography **Credits:** 1-3
- KIN 597 - Research Experience in Kinesiology **Credits:** 0-3
- PLPTH 495 - Undergraduate Research in Plant Pathology **Credits:** 0-3
- PSYCH 599 - Research in Psychology **Credits:** 0-18
- WOEM 495 - Undergraduate Research in Wildlife and Outdoor Enterprise Management **Credits:** 0-3

Courses From Other Departments (except research courses):

Choose from the Course list below. No more than 6 credits can be used from "Courses From Other Departments (except research courses)". Research courses do not count toward 6 credit total limit.

- AGCOM 712 - Environmental Communication **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGRON 205 - Soils **Credits:** 3
- AGRON 251 - Range Management **Credits:** 3
- AGRON 335 - Environmental Quality **Credits:** 3
- AGRON 610 - Biotechnology **Credits:** 3
- AGRON 620 - Applied Crop Physiology **Credits:** 3
- AGRON 630 - Crop Improvement and Biotechnology **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AGRON 646 - Soil Microbiology Laboratory **Credits:** 1
- AGRON 660 - Grassland Monitoring and Assessment **Credits:** 2
- AGRON 661 - Grassland Monitoring and Assessment Lab **Credits:** 1
- AGRON 680 - Plant Genetics **Credits:** 3
- AGRON 681 - Range Ecology **Credits:** 3
- AGRON 682 - Grassland Fire Ecology **Credits:** 3
- AGRON 695 - Climate Change and Agriculture **Credits:** 3
- AGRON 781 - Ecology of Invasive Species **Credits:** 3
- AP 600 - Introduction to Pharmacology for Health Professionals **Credits:** 3
- AP 641 - Histology for Health Professions **Credits:** 3
- AP 711 - Stem Cells and Comparative Biomedicine **Credits:** 2
- ASI 218 - Fundamentals of Nutrition **Credits:** 3
- ASI 533 - Physiology of Domestic Animals **Credits:** 3
- ASI 540 - Principles of Animal Disease Control **Credits:** 3
- ASI 560 - Course-Based Undergraduate Research in Animal Sciences & Industry **Credits:** 2
- ASI 658 - Animal Growth and Development **Credits:** 3
- BAE 445 - Biological Engineering Fundamentals **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3
- BIOCH 571 - Medical Biochemistry **Credits:** 3
- BIOCH 755 - Biochemistry I **Credits:** 3
- BIOCH 756 - Biochemistry I Laboratory **Credits:** 2
- BIOCH 757 - NMR Laboratory **Credits:** 1
- BIOCH 758 - Protein Structure Laboratory **Credits:** 1
- BIOCH 765 - Biochemistry II **Credits:** 3
- BIOCH 766 - Recombinant DNA Laboratory I **Credits:** 1
- BIOCH 767 - Recombinant DNA Laboratory II **Credits:** 1
- BIOCH 775 - Molecular Biophysics **Credits:** 3

- CHM 315 - Environmental Science: A Chemistry Perspective **Credits:** 3
- DMP 690 - Essential Practices for BSL-3 Research Settings **Credits:** 1
- DMP 691 - Introduction to High Containment Laboratory Topics and Techniques **Credits:** 3
- DMP 710 - Introduction to One Health **Credits:** 2
- DMP 754 - Introduction to Epidemiology **Credits:** 3
- DMP 770 - Emerging Diseases **Credits:** 3
- ECON 527 - Environmental Economics **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- ENTOM 625 - Integrative Behavioral Ecology **Credits:** 3
- ENTOM 630 - Introduction to Molecular Entomology **Credits:** 2
- ENTOM 635 - Insect Evolution **Credits:** 3
- ENTOM 649 - Introduction to Arthropod Vectors of Human Pathogens **Credits:** 3
- ENTOM 652 - Introduction to Insect Molecular Techniques **Credits:** 2
- ENTOM 660 - Introduction to Insect Genetics **Credits:** 3
- ENTOM 675 - Introduction to Insect Physiology **Credits:** 3
- ENTOM 692 - Insect Ecology **Credits:** 3
- ENTOM 695 - Insect Taxonomy **Credits:** 3
- FDSCI 600 - Food Microbiology **Credits:** 2
- FDSCI 601 - Food Microbiology Lab **Credits:** 2
- FNDH 400 - Human Nutrition **Credits:** 3
- FNDH 620 - Nutrient Metabolism **Credits:** 3
- FNDH 654 - Pathophysiology and Clinical Evaluation **Credits:** 3
- GEOG 445 - Biogeography **Credits:** 3
- GEOG 460 - Human Dimensions of Global Change **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- GEOG 605 - Remote Sensing of the Environment **Credits:** 3
- GEOG 608 - Geographic Information Systems II **Credits:** 3
- GEOG 761 - Human Impact on the Environment **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3
- KIN 601 - Cardiorespiratory Physiology **Credits:** 3
- KIN 603 - Cardiovascular Physiology **Credits:** 3
- KIN 607 - Muscle Physiology **Credits:** 3
- KIN 609 - Environmental Physiology **Credits:** 3
- KIN 611 - Autonomic Neurophysiology **Credits:** 3
- KIN 615 - Cardiorespiratory/Comparative Physiology in Health and Disease **Credits:** 3
- KIN 617 - Signaling Pathways in Physiology **Credits:** 3
- KIN 657 - Integrative Human Pathophysiology **Credits:** 3
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- PHILO 595 - Environmental Ethics **Credits:** 3
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3
- PLPTH 585 - Crop Diseases **Credits:** 2
- PLPTH 610 - Biotechnology **Credits:** 3
- PSYCH 470 - Principles of Neuroscience **Credits:** 3
- PSYCH 570 - Psychopharmacology **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
- WOEM 400 - Pond and Sportfish Management **Credits:** 3

- WOEM 555 - Big Game Management **Credits:** 3
- WOEM 560 - Upland Game Bird Management **Credits:** 3
- WOEM 561 - Waterfowl and Wetlands Management **Credits:** 3
- WOEM 562 - Advanced Wildlife Habitat Management **Credits:** 4
- WOEM 620 - Human-Wildlife Conflicts **Credits:** 3

BS Arts, Humanities, and Social Sciences Restrictive Electives: 6 credit hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above **OR** at any level with a prerequisite in the same discipline.

Fine Arts or Humanities Course: 3 credit hours

Any course or combination of courses.

Non-Quantitative Social Science Course: 3 credit hours

Choose any social science course that does NOT have a MATH or STAT prereq

Free Electives: 5-10 credit hours

In addition to the K-State Core Free Electives requirement, take any course so that the total number of credit hours completed is 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

Natural and Quantitative

- Natural Science: CHM 210 or CHM 220 (listed in Courses Required for the Biology Degree)
- Quantitative: STAT 225, STAT 240, STAT 701, STAT 703; MATH 221, MATH 551, MATH 615; CC 110 plus CC 111, CC 210; CIS 200 (listed in Courses Required for the Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) CHM 230 or CHM 250 (listed in Courses Required for the Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) BIOL 450 (listed in Courses Required for the Biology Degree)

Biology - Human Health Biology (BS)

A degree in biology provides students with the skills to succeed in diverse careers and tackle the challenges faced by society. Biology is a valuable major for students going into human health and veterinary disciplines, and graduate programs ranging from molecular biology to organismal biology to ecology, as well as a diversity of bachelor's-level jobs. In addition to the curriculum requirements of the University and College of Arts and Sciences, students earning a biology BS must take courses indicated below and choose one of the seven tracks to complete.

Pre-vet option - Biology

Students who complete the K-State Core, College of Arts and Sciences Program requirements and Biology Major Requirements, with the exception of up to 15 credit hours from courses under their declared degree sub-option (Animal Biology, Cellular and Molecular Biology, Ecology and Evolutionary Biology, Human Health Biology, Integrative Biology, Plant Biology, or Computational Biology) and Biology Elective requirements, and have a minimum of 90 undergraduate credit hours prior to enrolling in the College of Veterinary Medicine at K-State, may earn a Biology degree after successful completion of at least 30 credit hours in veterinary medical school.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 credit hour

- BIOL 100 - Biology First-Year Orientation **Credits:** 1
  OR
- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 4-9+ credit hours

Outside credential of at least 9 credit hours (May be from any unit, except for Biology**,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for Biology) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] credit hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Biology Requirements: 38-47 credit hours

Credit total assumes MATH 220 counted as part of the K-State Core 3

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 398 - Principles of Genetics **Credits:** 4
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
  KSC-030
- BIOL 520 - Evolution **Credits:** 3
  OR
- BIOL 521 - Evolution of Infectious Diseases **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
  Alternatively, BIOCH 755, with BIOCH 765 recommended for students planning on further study in cellular or molecular areas of biology or in biochemistry.
- CHM 210 - Chemistry I **Credits:** 4
  OR
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
  OR
- CHM 250 - Honors Chemistry II **Credits:** 5
- CHM 350 - General Organic Chemistry **Credits:** 3
  Alternatively, CHM 531, with CHM 550 recommended for students planning to attend medical school or to pursue further study in cellular or molecular areas of biology or in biochemistry.
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
  OR
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
- PHYS 113 - General Physics I **Credits:** 4
  OR
- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 114 - General Physics II **Credits:** 4
  OR
- PHYS 214 - Engineering Physics II **Credits:** 5
  Choose one course from the list below:
- CC 210 - Fundamental Computer Programming Concepts **Credits:** 4
- CIS 200 - Programming Fundamentals **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- MATH 551 - Applied Matrix Theory **Credits:** 3
- MATH 615 - Introduction to Digital Image Processing **Credits:** 3
- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 701 - Fundamental Methods of Biostatistics **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
- CC 110 - Introduction to Computing **Credits:** 2
  AND

- CC 111 - Elements of Computer Programming **Credits:** 1

Human Health Biology Option: 15 credit hours

- BIOL 255 - General Microbiology **Credits:** 4
- BIOL 441 - Human Body I **Credits:** 4
- BIOL 442 - Human Body II **Credits:** 4
- BIOL 541 - Cell Biology **Credits:** 3

Major Electives: 11 credit hours

Choose 11 credit hours from the lists below, including no more than 3 credits numbered 399 or lower. BIOL 221 Organismic Biology can be included and will not be counted toward the allowed 3 credits numbered 399 or lower. Courses used here may not be used elsewhere.

Biology courses (other than BIOL 695 and BIOL 698).
Biology course listing can be found in the University Course Catalog.
Research Courses - Choose no more than 3 credit hours from the list below:
Choose from the Course list below. No more than 3 credit hours from all Research Courses combined can be used toward BIOL electives.

- AGRON 598 - Undergraduate Research in Agronomy **Credits:** 0-18
- AP 790 - Problems in Anatomy and Physiology **Credits:** 1-18
- ASI 561 - Undergraduate Research in Animal Sciences & Industry **Credits:** 0-3
- BAE 497 - Undergraduate Research Experience **Credits:** 0-3
- BAE 499 - Honors Research in Biological Systems Engineering **Credits:** 1-18
- BIOCH 599 - Research Training in Biochemistry **Credits:** 1-3
- BIOL 695 - Internship in Biology **Credits:** 1-3
- BIOL 698 - Research in Biology **Credits:** 0-8
- CHE 497 - Undergraduate Research Experience **Credits:** 0-3
- CHM 497 - Research in Undergraduate Chemistry **Credits:** 1-3
- DAS 400 - Undergraduate Research in Arts and Sciences **Credits:** 0-3
- DAS 506 - Undergraduate Cancer Research **Credits:** 1
- DMP 680 - Problems in Pathobiology **Credits:** 1-5
- ENTOM 482 - Research Experience in Entomology **Credits:** 1-3
- GEOG 497 - Undergraduate Research in Geography **Credits:** 1-3
- KIN 597 - Research Experience in Kinesiology **Credits:** 0-3
- PLPTH 495 - Undergraduate Research in Plant Pathology **Credits:** 0-3
- PSYCH 599 - Research in Psychology **Credits:** 0-18
- WOEM 495 - Undergraduate Research in Wildlife and Outdoor Enterprise Management **Credits:** 0-3

Courses From Other Departments (except research courses):
Choose from the Course list below. No more than 6 credits can be used from "Courses From Other Departments (except research courses)". Research courses do not count toward the 6 credit total limit.

- AGCOM 712 - Environmental Communication **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGRON 205 - Soils **Credits:** 3

- AGRON 251 - Range Management **Credits:** 3
- AGRON 335 - Environmental Quality **Credits:** 3
- AGRON 610 - Biotechnology **Credits:** 3
- AGRON 620 - Applied Crop Physiology **Credits:** 3
- AGRON 630 - Crop Improvement and Biotechnology **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AGRON 646 - Soil Microbiology Laboratory **Credits:** 1
- AGRON 660 - Grassland Monitoring and Assessment **Credits:** 2
- AGRON 661 - Grassland Monitoring and Assessment Lab **Credits:** 1
- AGRON 680 - Plant Genetics **Credits:** 3
- AGRON 681 - Range Ecology **Credits:** 3
- AGRON 682 - Grassland Fire Ecology **Credits:** 3
- AGRON 695 - Climate Change and Agriculture **Credits:** 3
- AGRON 781 - Ecology of Invasive Species **Credits:** 3
- AP 600 - Introduction to Pharmacology for Health Professionals **Credits:** 3
- AP 641 - Histology for Health Professions **Credits:** 3
- AP 711 - Stem Cells and Comparative Biomedicine **Credits:** 2
- ASI 218 - Fundamentals of Nutrition **Credits:** 3
- ASI 533 - Physiology of Domestic Animals **Credits:** 3
- ASI 540 - Principles of Animal Disease Control **Credits:** 3
- ASI 560 - Course-Based Undergraduate Research in Animal Sciences & Industry **Credits:** 2
- ASI 658 - Animal Growth and Development **Credits:** 3
- BAE 445 - Biological Engineering Fundamentals **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3
- BIOCH 571 - Medical Biochemistry **Credits:** 3
- BIOCH 755 - Biochemistry I **Credits:** 3
- BIOCH 756 - Biochemistry I Laboratory **Credits:** 2
- BIOCH 757 - NMR Laboratory **Credits:** 1
- BIOCH 758 - Protein Structure Laboratory **Credits:** 1
- BIOCH 765 - Biochemistry II **Credits:** 3
- BIOCH 766 - Recombinant DNA Laboratory I **Credits:** 1
- BIOCH 767 - Recombinant DNA Laboratory II **Credits:** 1
- BIOCH 775 - Molecular Biophysics **Credits:** 3
- CHM 315 - Environmental Science: A Chemistry Perspective **Credits:** 3
- DMP 690 - Essential Practices for BSL-3 Research Settings **Credits:** 1
- DMP 691 - Introduction to High Containment Laboratory Topics and Techniques **Credits:** 3
- DMP 710 - Introduction to One Health **Credits:** 2
- DMP 754 - Introduction to Epidemiology **Credits:** 3
- DMP 770 - Emerging Diseases **Credits:** 3
- ECON 527 - Environmental Economics **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- ENTOM 625 - Integrative Behavioral Ecology **Credits:** 3
- ENTOM 630 - Introduction to Molecular Entomology **Credits:** 2
- ENTOM 635 - Insect Evolution **Credits:** 3
- ENTOM 649 - Introduction to Arthropod Vectors of Human Pathogens **Credits:** 3
- ENTOM 652 - Introduction to Insect Molecular Techniques **Credits:** 2

- ENTOM 660 - Introduction to Insect Genetics **Credits:** 3
- ENTOM 675 - Introduction to Insect Physiology **Credits:** 3
- ENTOM 692 - Insect Ecology **Credits:** 3
- ENTOM 695 - Insect Taxonomy **Credits:** 3
- FDSCI 600 - Food Microbiology **Credits:** 2
- FDSCI 601 - Food Microbiology Lab **Credits:** 2
- FNDH 400 - Human Nutrition **Credits:** 3
- FNDH 620 - Nutrient Metabolism **Credits:** 3
- FNDH 654 - Pathophysiology and Clinical Evaluation **Credits:** 3
- GEOG 445 - Biogeography **Credits:** 3
- GEOG 460 - Human Dimensions of Global Change **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- GEOG 605 - Remote Sensing of the Environment **Credits:** 3
- GEOG 608 - Geographic Information Systems II **Credits:** 3
- GEOG 761 - Human Impact on the Environment **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3
- KIN 601 - Cardiorespiratory Physiology **Credits:** 3
- KIN 603 - Cardiovascular Physiology **Credits:** 3
- KIN 607 - Muscle Physiology **Credits:** 3
- KIN 609 - Environmental Physiology **Credits:** 3
- KIN 611 - Autonomic Neurophysiology **Credits:** 3
- KIN 615 - Cardiorespiratory/Comparative Physiology in Health and Disease **Credits:** 3
- KIN 617 - Signaling Pathways in Physiology **Credits:** 3
- KIN 657 - Integrative Human Pathophysiology **Credits:** 3
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- PHILO 595 - Environmental Ethics **Credits:** 3
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3
- PLPTH 585 - Crop Diseases **Credits:** 2
- PLPTH 610 - Biotechnology **Credits:** 3
- PSYCH 470 - Principles of Neuroscience **Credits:** 3
- PSYCH 570 - Psychopharmacology **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
- WOEM 400 - Pond and Sportfish Management **Credits:** 3
- WOEM 555 - Big Game Management **Credits:** 3
- WOEM 560 - Upland Game Bird Management **Credits:** 3
- WOEM 561 - Waterfowl and Wetlands Management **Credits:** 3
- WOEM 562 - Advanced Wildlife Habitat Management **Credits:** 4
- WOEM 620 - Human-Wildlife Conflicts **Credits:** 3

BS Arts, Humanities, and Social Sciences Restrictive Electives: 6 credit hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities Course: 3 credit hours

Non-Quantitative Social Science Course: 3 credit hours

Choose any social science course that does NOT have a MATH or STAT prereq

Free Electives: 5-10 credit hours

In addition to the K-State Core Free Electives requirement, take any course so that the total number of credit hours completed is 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

Natural and Quantitative

- Natural Science: CHM 210 or CHM 220 (listed in Courses Required for the Biology Degree)
- Quantitative: STAT 225, STAT 240, STAT 701, STAT 703; MATH 221, MATH 551, MATH 615; CC 110 plus CC 111, CC 210; CIS 200 (listed in Courses Required for the Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) CHM 230 or CHM 250 (listed in Courses Required for the Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) BIOL 450 (listed in Courses Required for the Biology Degree)

Biology - Integrative Biology (BS)

A degree in biology provides students with the skills to succeed in diverse careers and tackle the challenges faced by society. Biology is a valuable major for students going into human health and veterinary disciplines, and graduate programs ranging from molecular biology to organismal biology to ecology, as well as a diversity of bachelor's-level jobs. In addition to the curriculum requirements of the University and College of Arts and Sciences, students earning a biology BS must take courses indicated below and choose one of the seven tracks to complete.

Pre-vet option - Biology

Students who complete the K-State Core, College of Arts and Sciences Program requirements and Biology Major Requirements, with the exception of up to 15 credit hours from courses under their declared degree sub-option (Animal Biology, Cellular and Molecular Biology, Ecology and Evolutionary Biology, Human Health Biology, Integrative Biology, Plant Biology, or Computational Biology) and Biology Elective requirements, and have a minimum of 90 undergraduate credit hours prior to enrolling in the College of Veterinary Medicine at K-State, may earn a Biology degree after successful completion of at least 30 credit hours in veterinary medical school.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 credit hour

- BIOL 100 - Biology First-Year Orientation **Credits:** 1

Outside Concentration: 4-9+ credit hours

Outside credential of at least 9 credit hours (May be from any unit, except Biology OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for BIOL) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] credit hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Biology Requirements: 38-47

Credit total assumes MATH 220 counted as part of the K-State Core 3

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 398 - Principles of Genetics **Credits:** 4
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
  KSC-030
- BIOL 520 - Evolution **Credits:** 3
  OR
- BIOL 521 - Evolution of Infectious Diseases **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
  Alternatively, BIOCH 755, with BIOCH 765 recommended for students planning on further study in cellular or molecular areas of biology or biochemistry.

- CHM 210 - Chemistry I **Credits:** 4
  OR
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
  OR
- CHM 250 - Honors Chemistry II **Credits:** 5
- CHM 350 - General Organic Chemistry **Credits:** 3
  Alternatively, CHM 531, with CHM 550 recommended for students planning to attend medical school or to pursue further study in cellular or molecular areas of biology or in biochemistry.
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
  OR
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
- PHYS 113 - General Physics I **Credits:** 4
  OR
- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 114 - General Physics II **Credits:** 4
  OR
- PHYS 214 - Engineering Physics II **Credits:** 5
  Choose one course from the list below:
- CC 210 - Fundamental Computer Programming Concepts **Credits:** 4
- CIS 200 - Programming Fundamentals **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- MATH 551 - Applied Matrix Theory **Credits:** 3
- MATH 615 - Introduction to Digital Image Processing **Credits:** 3
- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 701 - Fundamental Methods of Biostatistics **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
- CC 110 - Introduction to Computing **Credits:** 2
  AND
- CC 111 - Elements of Computer Programming **Credits:** 1

Integrative Biology Option: 11 credit hours

- BIOL 221 - Organismic Biology **Credits:** 5
- BIOL 529 - Ecology **Credits:** 3
- BIOL 541 - Cell Biology **Credits:** 3

Major Electives: 15 credit hours

Choose 15 credit hours from the lists below, including no more than 3 credits numbered 399 or lower. BIOL 255 Microbiology can be included and will not be counted toward the allowed 3 credits numbered 399 or lower. Must include two lab classes. Courses used here may not be used elsewhere.

Biology courses (other than BIOL 695 and BIOL 698).
Biology course listing can be found in the University Course Catalog.
Research Courses - Choose no more than 3 credit hours from the list below:

Choose from the Course list below. No more than 3 credit hours from all Research Courses combined can be used toward BIOL electives.

- AGRON 598 - Undergraduate Research in Agronomy **Credits:** 0-18
- AP 790 - Problems in Anatomy and Physiology **Credits:** 1-18
- ASI 561 - Undergraduate Research in Animal Sciences & Industry **Credits:** 0-3
- BAE 497 - Undergraduate Research Experience **Credits:** 0-3
- BAE 499 - Honors Research in Biological Systems Engineering **Credits:** 1-18
- BIOCH 599 - Research Training in Biochemistry **Credits:** 1-3
- BIOL 695 - Internship in Biology **Credits:** 1-3
- BIOL 698 - Research in Biology **Credits:** 0-8
- CHE 497 - Undergraduate Research Experience **Credits:** 0-3
- CHM 497 - Research in Undergraduate Chemistry **Credits:** 1-3
- DAS 400 - Undergraduate Research in Arts and Sciences **Credits:** 0-3
- DAS 506 - Undergraduate Cancer Research **Credits:** 1
- DMP 680 - Problems in Pathobiology **Credits:** 1-5
- ENTOM 482 - Research Experience in Entomology **Credits:** 1-3
- GEOG 497 - Undergraduate Research in Geography **Credits:** 1-3
- KIN 597 - Research Experience in Kinesiology **Credits:** 0-3
- PLPTH 495 - Undergraduate Research in Plant Pathology **Credits:** 0-3
- PSYCH 599 - Research in Psychology **Credits:** 0-18
- WOEM 495 - Undergraduate Research in Wildlife and Outdoor Enterprise Management **Credits:** 0-3

Courses From Other Departments (except research courses):

Choose from the Course list below. No more than 6 credits can be used from "Courses From Other Departments (except research courses)". Research courses do not count toward the 6 credit total limit.

- AGCOM 712 - Environmental Communication **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGRON 205 - Soils **Credits:** 3
- AGRON 251 - Range Management **Credits:** 3
- AGRON 335 - Environmental Quality **Credits:** 3
- AGRON 610 - Biotechnology **Credits:** 3
- AGRON 620 - Applied Crop Physiology **Credits:** 3
- AGRON 630 - Crop Improvement and Biotechnology **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AGRON 646 - Soil Microbiology Laboratory **Credits:** 1
- AGRON 660 - Grassland Monitoring and Assessment **Credits:** 2
- AGRON 661 - Grassland Monitoring and Assessment Lab **Credits:** 1
- AGRON 680 - Plant Genetics **Credits:** 3
- AGRON 681 - Range Ecology **Credits:** 3
- AGRON 682 - Grassland Fire Ecology **Credits:** 3
- AGRON 695 - Climate Change and Agriculture **Credits:** 3
- AGRON 781 - Ecology of Invasive Species **Credits:** 3
- AP 600 - Introduction to Pharmacology for Health Professionals **Credits:** 3
- AP 641 - Histology for Health Professions **Credits:** 3
- AP 711 - Stem Cells and Comparative Biomedicine **Credits:** 2
- ASI 218 - Fundamentals of Nutrition **Credits:** 3
- ASI 533 - Physiology of Domestic Animals **Credits:** 3

- ASI 540 - Principles of Animal Disease Control **Credits:** 3
- ASI 560 - Course-Based Undergraduate Research in Animal Sciences & Industry **Credits:** 2
- ASI 658 - Animal Growth and Development **Credits:** 3
- BAE 445 - Biological Engineering Fundamentals **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3
- BIOCH 571 - Medical Biochemistry **Credits:** 3
- BIOCH 755 - Biochemistry I **Credits:** 3
- BIOCH 756 - Biochemistry I Laboratory **Credits:** 2
- BIOCH 757 - NMR Laboratory **Credits:** 1
- BIOCH 758 - Protein Structure Laboratory **Credits:** 1
- BIOCH 765 - Biochemistry II **Credits:** 3
- BIOCH 766 - Recombinant DNA Laboratory I **Credits:** 1
- BIOCH 767 - Recombinant DNA Laboratory II **Credits:** 1
- BIOCH 775 - Molecular Biophysics **Credits:** 3
- CHM 315 - Environmental Science: A Chemistry Perspective **Credits:** 3
- DMP 690 - Essential Practices for BSL-3 Research Settings **Credits:** 1
- DMP 691 - Introduction to High Containment Laboratory Topics and Techniques **Credits:** 3
- DMP 710 - Introduction to One Health **Credits:** 2
- DMP 754 - Introduction to Epidemiology **Credits:** 3
- DMP 770 - Emerging Diseases **Credits:** 3
- ECON 527 - Environmental Economics **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- ENTOM 625 - Integrative Behavioral Ecology **Credits:** 3
- ENTOM 630 - Introduction to Molecular Entomology **Credits:** 2
- ENTOM 635 - Insect Evolution **Credits:** 3
- ENTOM 649 - Introduction to Arthropod Vectors of Human Pathogens **Credits:** 3
- ENTOM 652 - Introduction to Insect Molecular Techniques **Credits:** 2
- ENTOM 660 - Introduction to Insect Genetics **Credits:** 3
- ENTOM 675 - Introduction to Insect Physiology **Credits:** 3
- ENTOM 692 - Insect Ecology **Credits:** 3
- ENTOM 695 - Insect Taxonomy **Credits:** 3
- FDSCI 600 - Food Microbiology **Credits:** 2
- FDSCI 601 - Food Microbiology Lab **Credits:** 2
- FNDH 400 - Human Nutrition **Credits:** 3
- FNDH 620 - Nutrient Metabolism **Credits:** 3
- FNDH 654 - Pathophysiology and Clinical Evaluation **Credits:** 3
- GEOG 445 - Biogeography **Credits:** 3
- GEOG 460 - Human Dimensions of Global Change **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- GEOG 605 - Remote Sensing of the Environment **Credits:** 3
- GEOG 608 - Geographic Information Systems II **Credits:** 3
- GEOG 761 - Human Impact on the Environment **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3
- KIN 601 - Cardiorespiratory Physiology **Credits:** 3
- KIN 603 - Cardiovascular Physiology **Credits:** 3
- KIN 607 - Muscle Physiology **Credits:** 3

- KIN 609 - Environmental Physiology **Credits:** 3
- KIN 611 - Autonomic Neurophysiology **Credits:** 3
- KIN 615 - Cardiorespiratory/Comparative Physiology in Health and Disease **Credits:** 3
- KIN 617 - Signaling Pathways in Physiology **Credits:** 3
- KIN 657 - Integrative Human Pathophysiology **Credits:** 3
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- PHILO 595 - Environmental Ethics **Credits:** 3
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3
- PLPTH 585 - Crop Diseases **Credits:** 2
- PLPTH 610 - Biotechnology **Credits:** 3
- PSYCH 470 - Principles of Neuroscience **Credits:** 3
- PSYCH 570 - Psychopharmacology **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
- WOEM 400 - Pond and Sportfish Management **Credits:** 3
- WOEM 555 - Big Game Management **Credits:** 3
- WOEM 560 - Upland Game Bird Management **Credits:** 3
- WOEM 561 - Waterfowl and Wetlands Management **Credits:** 3
- WOEM 562 - Advanced Wildlife Habitat Management **Credits:** 4
- WOEM 620 - Human-Wildlife Conflicts **Credits:** 3

BS Arts, Humanities, and Social Sciences Restrictive Electives: 6 credit hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above **OR** at any level with a prerequisite in the same discipline.

Fine Arts or Humanities Course: 3 credit hours

Non-Quantitative Social Science Course: 3 credit hours

Choose any social science course that does NOT have a MATH or STAT prereq

Free Electives: 5-10 credit hours

In addition to the K-State Core Free Electives requirement, take any course so that the total number of credit hours completed is 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

Natural and Quantitative

- Natural Science: CHM 210 or CHM 220 (listed in Courses Required for the Biology Degree)
- Quantitative: STAT 225, STAT 240, STAT 701, STAT 703; MATH 221, MATH 551, MATH 615; CC 110 plus CC 111, CC 210; CIS 200 (listed in Courses Required for the Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) CHM 230 or CHM 250 (listed in Courses Required for the Biology Degree)

- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) BIOL 450 (listed in Courses Required for the Biology Degree)

Biology - Plant Biology (BS)

A degree in biology provides students with the skills to succeed in diverse careers and tackle the challenges faced by society. Biology is a valuable major for students going into human health and veterinary disciplines, and graduate programs ranging from molecular biology to organismal biology to ecology, as well as a diversity of bachelor's-level jobs. In addition to the curriculum requirements of the University and College of Arts and Sciences, students earning a biology BS must take courses indicated below and choose one of the seven tracks to complete.

Pre-vet option - Biology

Students who complete the K-State Core, College of Arts and Sciences Program requirements and Biology Major Requirements, with the exception of up to 15 credit hours from courses under their declared degree sub-option (Animal Biology, Cellular and Molecular Biology, Ecology and Evolutionary Biology, Human Health Biology, Integrative Biology, Plant Biology, or Computational Biology) and Biology Elective requirements, and have a minimum of 90 undergraduate credit hours prior to enrolling in the College of Veterinary Medicine at K-State, may earn a Biology degree after successful completion of at least 30 credit hours in veterinary medical school.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 credit hour

- BIOL 100 - Biology First-Year Orientation **Credits:** 1
  OR
- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 4-9+ credit hours

Outside credential of at least 9 credit hours (May be from any unit **except for Biology** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for BIOL**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] credit hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Biology Requirements: 38-47 credit hours

Credit total assumes MATH 220 counted as part of the K-State Core 3

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 398 - Principles of Genetics **Credits:** 4
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
  KSC-030
- BIOL 520 - Evolution **Credits:** 3
  OR
- BIOL 521 - Evolution of Infectious Diseases **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
  Alternatively, BIOCH 755, with BIOCH 765 recommended for students planning on further study in cellular or molecular areas of biology or in biochemistry.
- CHM 210 - Chemistry I **Credits:** 4
  OR
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
  OR
- CHM 250 - Honors Chemistry II **Credits:** 5
- CHM 350 - General Organic Chemistry **Credits:** 3
  Alternatively, CHM 531, with CHM 550 recommended for students planning to attend medical school or to pursue further study in cellular or molecular areas of biology or in biochemistry.
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
  OR
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
- PHYS 113 - General Physics I **Credits:** 4
  OR
- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 114 - General Physics II **Credits:** 4
  OR
- PHYS 214 - Engineering Physics II **Credits:** 5
  Choose one course from the list below:

- CC 210 - Fundamental Computer Programming Concepts **Credits:** 4
- CIS 200 - Programming Fundamentals **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- MATH 551 - Applied Matrix Theory **Credits:** 3
- MATH 615 - Introduction to Digital Image Processing **Credits:** 3
- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 701 - Fundamental Methods of Biostatistics **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
- CC 110 - Introduction to Computing **Credits:** 2
  AND
- CC 111 - Elements of Computer Programming **Credits:** 1

Plant Biology Option: 15 credit hours

- BIOL 221 - Organismic Biology **Credits:** 5
- BIOL 500 - Plant Physiology **Credits:** 3
- BIOL 551 - Taxonomy of Flowering Plants **Credits:** 4
  Choose one course (at least 3 credits) from the list below:
- BIOL 461 - Phage Hunters I **Credits:** 3
- BIOL 676 - Molecular Genetics Laboratory **Credits:** 3
- BIOL 695 - Internship in Biology **Credits:** 1-3
- BIOL 698 - Research in Biology **Credits:** 0-8

Major Electives: 11 credit hours

Choose 11 credit hours from the lists below, including no more than 3 credits numbered 399 or lower. BIOL 255 Microbiology can be included and will not be counted toward the allowed 3 credits numbered 399 or lower. Must include two lab classes. Courses used here may not be used elsewhere.

Biology courses (other than BIOL 695 and BIOL 698).
Biology course listing can be found in the University Course Catalog.
Research Courses - Choose no more than 3 credit hours from the list below:
Choose from the Course list below. No more than 3 credit hours from all Research Courses combined can be used toward BIOL electives.

- AGRON 598 - Undergraduate Research in Agronomy **Credits:** 0-18
- AP 790 - Problems in Anatomy and Physiology **Credits:** 1-18
- ASI 561 - Undergraduate Research in Animal Sciences & Industry **Credits:** 0-3
- BAE 497 - Undergraduate Research Experience **Credits:** 0-3
- BAE 499 - Honors Research in Biological Systems Engineering **Credits:** 1-18
- BIOCH 599 - Research Training in Biochemistry **Credits:** 1-3
- BIOL 695 - Internship in Biology **Credits:** 1-3
- BIOL 698 - Research in Biology **Credits:** 0-8
- CHE 497 - Undergraduate Research Experience **Credits:** 0-3
- CHM 497 - Research in Undergraduate Chemistry **Credits:** 1-3
- DAS 400 - Undergraduate Research in Arts and Sciences **Credits:** 0-3
- DAS 506 - Undergraduate Cancer Research **Credits:** 1

- DMP 680 - Problems in Pathobiology **Credits:** 1-5
- ENTOM 482 - Research Experience in Entomology **Credits:** 1-3
- GEOG 497 - Undergraduate Research in Geography **Credits:** 1-3
- KIN 597 - Research Experience in Kinesiology **Credits:** 0-3
- PLPTH 495 - Undergraduate Research in Plant Pathology **Credits:** 0-3
- PSYCH 599 - Research in Psychology **Credits:** 0-18
- WOEM 495 - Undergraduate Research in Wildlife and Outdoor Enterprise Management **Credits:** 0-3

Courses From Other Departments (except research courses):

Choose from the Course list below. No more than 6 credits that can be used from "Courses From Other Departments (except research courses)". Research courses do not count toward 6 credit total limit.

- AGCOM 712 - Environmental Communication **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGRON 205 - Soils **Credits:** 3
- AGRON 251 - Range Management **Credits:** 3
- AGRON 335 - Environmental Quality **Credits:** 3
- AGRON 610 - Biotechnology **Credits:** 3
- AGRON 620 - Applied Crop Physiology **Credits:** 3
- AGRON 630 - Crop Improvement and Biotechnology **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AGRON 646 - Soil Microbiology Laboratory **Credits:** 1
- AGRON 660 - Grassland Monitoring and Assessment **Credits:** 2
- AGRON 661 - Grassland Monitoring and Assessment Lab **Credits:** 1
- AGRON 680 - Plant Genetics **Credits:** 3
- AGRON 681 - Range Ecology **Credits:** 3
- AGRON 682 - Grassland Fire Ecology **Credits:** 3
- AGRON 695 - Climate Change and Agriculture **Credits:** 3
- AGRON 781 - Ecology of Invasive Species **Credits:** 3
- AP 600 - Introduction to Pharmacology for Health Professionals **Credits:** 3
- AP 641 - Histology for Health Professions **Credits:** 3
- AP 711 - Stem Cells and Comparative Biomedicine **Credits:** 2
- ASI 218 - Fundamentals of Nutrition **Credits:** 3
- ASI 533 - Physiology of Domestic Animals **Credits:** 3
- ASI 540 - Principles of Animal Disease Control **Credits:** 3
- ASI 560 - Course-Based Undergraduate Research in Animal Sciences & Industry **Credits:** 2
- ASI 658 - Animal Growth and Development **Credits:** 3
- BAE 445 - Biological Engineering Fundamentals **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3
- BIOCH 571 - Medical Biochemistry **Credits:** 3
- BIOCH 755 - Biochemistry I **Credits:** 3
- BIOCH 756 - Biochemistry I Laboratory **Credits:** 2
- BIOCH 757 - NMR Laboratory **Credits:** 1
- BIOCH 758 - Protein Structure Laboratory **Credits:** 1
- BIOCH 765 - Biochemistry II **Credits:** 3
- BIOCH 766 - Recombinant DNA Laboratory I **Credits:** 1
- BIOCH 767 - Recombinant DNA Laboratory II **Credits:** 1
- BIOCH 775 - Molecular Biophysics **Credits:** 3

- CHM 315 - Environmental Science: A Chemistry Perspective **Credits:** 3
- DMP 690 - Essential Practices for BSL-3 Research Settings **Credits:** 1
- DMP 691 - Introduction to High Containment Laboratory Topics and Techniques **Credits:** 3
- DMP 710 - Introduction to One Health **Credits:** 2
- DMP 754 - Introduction to Epidemiology **Credits:** 3
- DMP 770 - Emerging Diseases **Credits:** 3
- ECON 527 - Environmental Economics **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- ENTOM 625 - Integrative Behavioral Ecology **Credits:** 3
- ENTOM 630 - Introduction to Molecular Entomology **Credits:** 2
- ENTOM 635 - Insect Evolution **Credits:** 3
- ENTOM 649 - Introduction to Arthropod Vectors of Human Pathogens **Credits:** 3
- ENTOM 652 - Introduction to Insect Molecular Techniques **Credits:** 2
- ENTOM 660 - Introduction to Insect Genetics **Credits:** 3
- ENTOM 675 - Introduction to Insect Physiology **Credits:** 3
- ENTOM 692 - Insect Ecology **Credits:** 3
- ENTOM 695 - Insect Taxonomy **Credits:** 3
- FDSCI 600 - Food Microbiology **Credits:** 2
- FDSCI 601 - Food Microbiology Lab **Credits:** 2
- FNDH 400 - Human Nutrition **Credits:** 3
- FNDH 620 - Nutrient Metabolism **Credits:** 3
- FNDH 654 - Pathophysiology and Clinical Evaluation **Credits:** 3
- GEOG 445 - Biogeography **Credits:** 3
- GEOG 460 - Human Dimensions of Global Change **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- GEOG 605 - Remote Sensing of the Environment **Credits:** 3
- GEOG 608 - Geographic Information Systems II **Credits:** 3
- GEOG 761 - Human Impact on the Environment **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3
- KIN 601 - Cardiorespiratory Physiology **Credits:** 3
- KIN 603 - Cardiovascular Physiology **Credits:** 3
- KIN 607 - Muscle Physiology **Credits:** 3
- KIN 609 - Environmental Physiology **Credits:** 3
- KIN 611 - Autonomic Neurophysiology **Credits:** 3
- KIN 615 - Cardiorespiratory/Comparative Physiology in Health and Disease **Credits:** 3
- KIN 617 - Signaling Pathways in Physiology **Credits:** 3
- KIN 657 - Integrative Human Pathophysiology **Credits:** 3
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- PHILO 595 - Environmental Ethics **Credits:** 3
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3
- PLPTH 585 - Crop Diseases **Credits:** 2
- PLPTH 610 - Biotechnology **Credits:** 3
- PSYCH 470 - Principles of Neuroscience **Credits:** 3
- PSYCH 570 - Psychopharmacology **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
- WOEM 400 - Pond and Sportfish Management **Credits:** 3

- WOEM 555 - Big Game Management **Credits:** 3
- WOEM 560 - Upland Game Bird Management **Credits:** 3
- WOEM 561 - Waterfowl and Wetlands Management **Credits:** 3
- WOEM 562 - Advanced Wildlife Habitat Management **Credits:** 4
- WOEM 620 - Human-Wildlife Conflicts **Credits:** 3

BS Arts, Humanities, and Social Sciences Restrictive Electives: 6 credit hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above **OR** at any level with a prerequisite in the same discipline.

Fine Arts or Humanities Course: 3 credit hours

Non-Quantitative Social Science Course: 3 credit hours

Choose any social science course that does NOT have a MATH or STAT prereq

Free Electives: 5-10 credit hours

In addition to the K-State Core Free Electives requirement, take any course so that the total number of credit hours completed is 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

Natural and Quantitative

- Natural Science: CHM 210 or CHM 220 (listed in Courses Required for the Biology Degree)
- Quantitative: STAT 225, STAT 240, STAT 701, STAT 703; MATH 221, MATH 551, MATH 615; CC 110 plus CC 111, CC 210; CIS 200 (listed in Courses Required for the Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) CHM 230 or CHM 250 (listed in Courses Required for the Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) BIOL 450 (listed in Courses Required for the Biology Degree)

Fisheries, Wildlife, Conservation, and Environmental Biology - Conservation Biology (BS)

A degree in fisheries, wildlife, conservation, or environmental biology provides a strong biological background allowing graduates to contribute to managing and protecting the natural world. In addition to the requirements of the University and the College of Arts and Sciences, Fisheries, Wildlife, Conservation, and Environmental Biology majors must take the courses indicated below and choose one of the four tracks to complete. Students who wish to qualify for professional certification as fisheries or wildlife biologists should consult their academic advisors about specific courses needed for certification.

Pre-vet option - Fisheries, Wildlife, Conservation, and Environmental Biology

Students who complete K-State Core, College of Arts and Sciences Program requirements and the Fisheries, Wildlife, Conservation, and Environmental Biology Major Requirements, with the exception of up to 15 credit hours from courses under their declared degree sub-option (Fisheries Ecology and Management, Wildlife Ecology and Management, Conservation Biology,

or Environmental Biology) and Fisheries, Wildlife, Conservation, and Environmental Biology electives, and have a minimum of 90 undergraduate credit hours prior to enrolling in the College of Veterinary Medicine at K-State, may earn a Fisheries, Wildlife, Conservation, and Environmental Biology degree after successful completion of at least 30 credit hours in veterinary medical school.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: (1 credit hour)

- BIOL 100 - Biology First-Year Orientation **Credits:** 1
  OR
- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: (4-9+ credit hours)

Outside credential of at least 9 credit hours (May be from any unit,except Biology OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except BIOL) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: ([9] credit hours)

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

Required Program Courses (44-48 credit hours)

Credit total assumes MATH 100, MATH 150, or MATH 220 counted as part of K-State Core #3

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 221 - Organismic Biology **Credits:** 5
- BIOL 333 - Introduction to Fisheries, Wildlife, Conservation and Environmental Biology **Credits:** 3
- BIOL 398 - Principles of Genetics **Credits:** 4
- BIOL 529 - Ecology **Credits:** 3
- BIOL 632 - Ecology Laboratory **Credits:** 1
- CHM 210 - Chemistry I **Credits:** 4
  Alternatively, CHM 220
- CHM 230 - Chemistry II **Credits:** 4
  Alternatively, CHM 250
- CHM 350 - General Organic Chemistry **Credits:** 3
  Alternatively, CHM 531 with CHM 550 recommended additionally
  AND
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
  Alternatively, CHM 532
  OR
- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
- MATH 100 - College Algebra **Credits:** 3
  OR
- MATH 150 - Plane Trigonometry **Credits:** 3
  OR
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- PHYS 113 - General Physics I **Credits:** 4
  Alternatively, PHYS 213
  AND
- PHYS 114 - General Physics II **Credits:** 4
  Alternatively, PHYS 214
  OR
- PHYS 115 - Descriptive Physics **Credits:** 5

Choose one of the following: 3 credit hours

- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 250 - Business and Economic Statistics I **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

Choose one of the following: 3 credit hours

- STAT 341 - Biometrics II **Credits:** 3
- STAT 351 - Business and Economic Statistics II **Credits:** 3
- STAT 705 - Regression and Analysis of Variance **Credits:** 3

Courses Required for the Conservation Biology option: (21 credit hours)

- BIOL 500 - Plant Physiology **Credits:** 3
  AND
- BIOL 501 - Plant Physiology Lab **Credits:** 1
  OR
- BIOL 513 - Physiological Adaptations of Animals **Credits:** 4
- BIOL 520 - Evolution **Credits:** 3
  OR
- BIOL 521 - Evolution of Infectious Diseases **Credits:** 3
- BIOL 640 - Population Biology **Credits:** 3
- BIOL 642 - Principles of Conservation Biology **Credits:** 3
  8 hours from the following list:
- BIOL 542 - Ichthyology **Credits:** 3
- BIOL 543 - Ornithology **Credits:** 3
- BIOL 544 - Mammalogy **Credits:** 3
- BIOL 551 - Taxonomy of Flowering Plants **Credits:** 4
- BIOL 604 - Biology of the Fungi **Credits:** 3
  3 credits any BIOL course at the 500-level or above
- ENTOM 312 - General Entomology **Credits:** 3

Major Electives for Degree: (6 credit hours)

Choose 6 credit hours from the list below. Courses used here may not be used elsewhere.

Biology courses numbered 400 or above (other than BIOL 695 and BIOL 698). *Biology course listing can be found in the University Course Catalog.*

- BIOL 255 - General Microbiology **Credits:** 4
- BIOL 263 - Ecology of Environmental Problems **Credits:** 3
  Only 1 credit from BIOL 263 can be used toward FWCEB electives.
- BIOL 365 - Practicum in Biology **Credits:** 1-4
  No more than 2 credits from BIOL 365 can be used toward FWCEB electives.
  Research Courses. *A total of up to 3 credits from all Research Courses combined can be used toward FWCEB electives.*
- AGRON 598 - Undergraduate Research in Agronomy **Credits:** 0-18
- ASI 561 - Undergraduate Research in Animal Sciences & Industry **Credits:** 0-3
- BIOL 695 - Internship in Biology **Credits:** 1-3
- BIOL 698 - Research in Biology **Credits:** 0-8
- DAS 400 - Undergraduate Research in Arts and Sciences **Credits:** 0-3
- DAS 506 - Undergraduate Cancer Research **Credits:** 1
- ENTOM 482 - Research Experience in Entomology **Credits:** 1-3
- GEOG 497 - Undergraduate Research in Geography **Credits:** 1-3
- WOEM 495 - Undergraduate Research in Wildlife and Outdoor Enterprise Management **Credits:** 0-3
  Courses From Other Departments (except research courses). *No more than 6 credits can be used from "Courses From Other Departments (except research courses)".*
- AGCOM 712 - Environmental Communication **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGRON 205 - Soils **Credits:** 3
- AGRON 251 - Range Management **Credits:** 3

- AGRON 335 - Environmental Quality **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AGRON 646 - Soil Microbiology Laboratory **Credits:** 1
- AGRON 660 - Grassland Monitoring and Assessment **Credits:** 2
- AGRON 661 - Grassland Monitoring and Assessment Lab **Credits:** 1
- AGRON 680 - Plant Genetics **Credits:** 3
- AGRON 681 - Range Ecology **Credits:** 3
- AGRON 682 - Grassland Fire Ecology **Credits:** 3
- AGRON 695 - Climate Change and Agriculture **Credits:** 3
- AGRON 781 - Ecology of Invasive Species **Credits:** 3
- ASI 218 - Fundamentals of Nutrition **Credits:** 3
- ASI 533 - Physiology of Domestic Animals **Credits:** 3
- ASI 540 - Principles of Animal Disease Control **Credits:** 3
- ASI 560 - Course-Based Undergraduate Research in Animal Sciences & Industry **Credits:** 2
- BIOCH 521 - General Biochemistry **Credits:** 3
- CHM 315 - Environmental Science: A Chemistry Perspective **Credits:** 3
- ECON 527 - Environmental Economics **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- ENTOM 625 - Integrative Behavioral Ecology **Credits:** 3
- ENTOM 635 - Insect Evolution **Credits:** 3
- ENTOM 660 - Introduction to Insect Genetics **Credits:** 3
- ENTOM 675 - Introduction to Insect Physiology **Credits:** 3
- ENTOM 692 - Insect Ecology **Credits:** 3
- ENTOM 695 - Insect Taxonomy **Credits:** 3
- GEOG 445 - Biogeography **Credits:** 3
- GEOG 460 - Human Dimensions of Global Change **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- GEOG 605 - Remote Sensing of the Environment **Credits:** 3
- GEOG 608 - Geographic Information Systems II **Credits:** 3
- GEOG 761 - Human Impact on the Environment **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- PHILO 595 - Environmental Ethics **Credits:** 3
- WOEM 400 - Pond and Sportfish Management **Credits:** 3
- WOEM 555 - Big Game Management **Credits:** 3
- WOEM 560 - Upland Game Bird Management **Credits:** 3
- WOEM 561 - Waterfowl and Wetlands Management **Credits:** 3
- WOEM 562 - Advanced Wildlife Habitat Management **Credits:** 4
- WOEM 620 - Human-Wildlife Conflicts **Credits:** 3

BS Arts, Humanities, and Social Sciences Restrictive Electives: (6 credit hours)

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses: (3 credit hours)

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq: (3 credit hours)

Free Electives: (1-4 credit hours)

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

Natural and Quantitative

- Natural Science: CHM 210 or CHM 220 (listed in Required Courses for the Fisheries, Wildlife, Conservation, and Environmental Biology Degree)
- Quantitative: STAT 225, STAT 240, STAT 250, or STAT 703 (listed in Required Courses for the Fisheries, Wildlife, Conservation, and Environmental Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq (4 credit hours): CHM 230 or CHM 250 (listed in Required Courses for the Fisheries, Wildlife, Conservation, and Environmental Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq (3 credit hours): BIOL 333 (listed in Required Courses for the Fisheries, Wildlife, Conservation, and Environmental Biology Degree)

Fisheries, Wildlife, Conservation, and Environmental Biology - Environmental Biology (BS)

A degree in fisheries, wildlife, conservation, or environmental biology provides a strong biological background allowing graduates to contribute to managing and protecting the natural world. In addition to the requirements of the University and the College of Arts and Sciences, Fisheries, Wildlife, Conservation, and Environmental Biology majors must take the courses indicated below and choose one of the four tracks to complete. Students who wish to qualify for professional certification as fisheries or wildlife biologists should consult their academic advisors about specific courses needed for certification.

Pre-vet option - Fisheries, Wildlife, Conservation, and Environmental Biology

Students who complete K-State Core, College of Arts and Sciences Program requirements and the Fisheries, Wildlife, Conservation, and Environmental Biology Major Requirements, with the exception of up to 15 credit hours from courses under their declared degree sub-option (Fisheries Ecology and Management, Wildlife Ecology and Management, Conservation Biology, or Environmental Biology) and Fisheries, Wildlife, Conservation, and Environmental Biology electives, and have a minimum of 90 undergraduate credit hours prior to enrolling in the College of Veterinary Medicine at K-State, may earn a Fisheries, Wildlife, Conservation, and Environmental Biology degree after successful completion of at least 30 credit hours in veterinary medical school.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional

general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: (1 credit hour)

Alternatively, DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation

- BIOL 100 - Biology First-Year Orientation **Credits:** 1

Outside Concentration: (4-9+ credit hours)

Outside credential of at least 9 credit hours (May be from any unit, except Biology OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for BIOL) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: ([9] credit hours)

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

Required Program Courses: (44-48 credit hours)

Credit total assumes MATH 100, MATH 150, or MATH 220 counted as part of K-State Core #3

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 221 - Organismic Biology **Credits:** 5
- BIOL 333 - Introduction to Fisheries, Wildlife, Conservation and Environmental Biology **Credits:** 3
- BIOL 398 - Principles of Genetics **Credits:** 4
- BIOL 529 - Ecology **Credits:** 3
- BIOL 632 - Ecology Laboratory **Credits:** 1
- CHM 210 - Chemistry I **Credits:** 4
  Alternatively, CHM 220

- CHM 230 - Chemistry II **Credits:** 4
  Alternatively, CHM 250
- CHM 350 - General Organic Chemistry **Credits:** 3
  Alternatively, CHM 531 with CHM 550 recommended additionally
  AND
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
  Alternatively, CHM 532
  OR
- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
- MATH 100 - College Algebra **Credits:** 3
  OR
- MATH 150 - Plane Trigonometry **Credits:** 3
  OR
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- PHYS 113 - General Physics I **Credits:** 4
  Alternatively, PHYS 213
  AND
- PHYS 114 - General Physics II **Credits:** 4
  Alternatively, PHYS 214
  OR
- PHYS 115 - Descriptive Physics **Credits:** 5

Choose one of the following: 3 credit hours

- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 250 - Business and Economic Statistics I **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

Choose one of the following: 3 credit hours

- STAT 341 - Biometrics II **Credits:** 3
- STAT 351 - Business and Economic Statistics II **Credits:** 3
- STAT 705 - Regression and Analysis of Variance **Credits:** 3

Required for Environmental Biology option: (15 credit hours)

3 credits from any BIOL course at the 400-level or above
AND
12 credits from the following list, including at least two laboratory courses:

- BIOL 435 - Environmental Biology **Credits:** 3
- BIOL 500 - Plant Physiology **Credits:** 3
- BIOL 501 - Plant Physiology Lab **Credits:** 1
- BIOL 510 - Developmental Biology **Credits:** 3
- BIOL 513 - Physiological Adaptations of Animals **Credits:** 4
- BIOL 515 - Behavioral Ecology **Credits:** 3
- BIOL 520 - Evolution **Credits:** 3
  OR

- BIOL 521 - Evolution of Infectious Diseases **Credits:** 3
- BIOL 612 - Freshwater Ecology **Credits:** 4
- BIOL 640 - Population Biology **Credits:** 3
- BIOL 642 - Principles of Conservation Biology **Credits:** 3
- BIOL 682 - Fish Ecology **Credits:** 3
- BIOL 687 - Microbial Ecology **Credits:** 3
- BIOL 734 - Introduction to Genomics and Bioinformatics **Credits:** 4

Major Electives (12 credit hours)

Choose 12 credit hours from the lists below. No more than 3 credits below the 400-level. Courses used here may not be used elsewhere.

Biology courses numbered 400 or above (other than BIOL 695 and BIOL 698). *Biology course listing can be found in the University Course Catalog.*

- BIOL 255 - General Microbiology **Credits:** 4
- BIOL 263 - Ecology of Environmental Problems **Credits:** 3
  Only 1 credit from BIOL 263 can be used toward FWCEB electives.
- BIOL 365 - Practicum in Biology **Credits:** 1-4
  No more than 2 credits from BIOL 365 can be used toward FWCEB electives.
  Research Courses. *A total of up to 3 credits from all Research Courses combined can be used toward FWCEB electives.*
- AGRON 598 - Undergraduate Research in Agronomy **Credits:** 0-18
- ASI 561 - Undergraduate Research in Animal Sciences & Industry **Credits:** 0-3
- BIOL 695 - Internship in Biology **Credits:** 1-3
- BIOL 698 - Research in Biology **Credits:** 0-8
- DAS 400 - Undergraduate Research in Arts and Sciences **Credits:** 0-3
- DAS 506 - Undergraduate Cancer Research **Credits:** 1
- ENTOM 482 - Research Experience in Entomology **Credits:** 1-3
- GEOG 497 - Undergraduate Research in Geography **Credits:** 1-3
- WOEM 495 - Undergraduate Research in Wildlife and Outdoor Enterprise Management **Credits:** 0-3
  Courses From Other Departments (except research courses). *No more than 6 credits can be used from "Courses From Other Departments (except research courses)".*
- AGCOM 712 - Environmental Communication **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGRON 205 - Soils **Credits:** 3
- AGRON 335 - Environmental Quality **Credits:** 3
- AGRON 251 - Range Management **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AGRON 646 - Soil Microbiology Laboratory **Credits:** 1
- AGRON 660 - Grassland Monitoring and Assessment **Credits:** 2
- AGRON 661 - Grassland Monitoring and Assessment Lab **Credits:** 1
- AGRON 680 - Plant Genetics **Credits:** 3
- AGRON 681 - Range Ecology **Credits:** 3
- AGRON 682 - Grassland Fire Ecology **Credits:** 3
- AGRON 695 - Climate Change and Agriculture **Credits:** 3
- AGRON 781 - Ecology of Invasive Species **Credits:** 3

- ASI 218 - Fundamentals of Nutrition **Credits:** 3
- ASI 533 - Physiology of Domestic Animals **Credits:** 3
- ASI 540 - Principles of Animal Disease Control **Credits:** 3
- ASI 560 - Course-Based Undergraduate Research in Animal Sciences & Industry **Credits:** 2
- BIOCH 521 - General Biochemistry **Credits:** 3
- CHM 315 - Environmental Science: A Chemistry Perspective **Credits:** 3
- ECON 527 - Environmental Economics **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- ENTOM 625 - Integrative Behavioral Ecology **Credits:** 3
- ENTOM 635 - Insect Evolution **Credits:** 3
- ENTOM 660 - Introduction to Insect Genetics **Credits:** 3
- ENTOM 675 - Introduction to Insect Physiology **Credits:** 3
- ENTOM 692 - Insect Ecology **Credits:** 3
- ENTOM 695 - Insect Taxonomy **Credits:** 3
- GEOG 445 - Biogeography **Credits:** 3
- GEOG 460 - Human Dimensions of Global Change **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- GEOG 605 - Remote Sensing of the Environment **Credits:** 3
- GEOG 608 - Geographic Information Systems II **Credits:** 3
- GEOG 761 - Human Impact on the Environment **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- PHILO 595 - Environmental Ethics **Credits:** 3
- WOEM 400 - Pond and Sportfish Management **Credits:** 3
- WOEM 555 - Big Game Management **Credits:** 3
- WOEM 560 - Upland Game Bird Management **Credits:** 3
- WOEM 561 - Waterfowl and Wetlands Management **Credits:** 3
- WOEM 562 - Advanced Wildlife Habitat Management **Credits:** 4
- WOEM 620 - Human-Wildlife Conflicts **Credits:** 3

BS Arts, Humanities, and Social Sciences Restrictive Electives: (6 credit hours)

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses: (3 credit hours)

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq: (3 credit hours)

Free Electives: (1-4 credit hours)

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

Orientation: DAS 101 (listed in Program Requirements: Orientation)

Natural and Quantitative

- Natural Science: CHM 210 or CHM 220 (listed in Courses Required for the Fisheries, Wildlife, Conservation, and Environmental Biology Degree)
- Quantitative: STAT 225, STAT 240, STAT 250, or STAT 703 (listed in Courses Required for the Fisheries, Wildlife, Conservation, and Environmental Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) CHM 230 or CHM 250 (listed in Courses Required for the Fisheries, Wildlife, Conservation, and Environmental Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) BIOL 333 (listed in Courses Required for the Environmental Biology Option)

Fisheries, Wildlife, Conservation, and Environmental Biology - Fisheries Ecology and Management (BS)

A degree in fisheries, wildlife, conservation, or environmental biology provides a strong biological background allowing graduates to contribute to managing and protecting the natural world. In addition to the requirements of the University and the College of Arts and Sciences, Fisheries, Wildlife, Conservation, and Environmental Biology majors must take the courses indicated below and choose one of the four tracks to complete. Students who wish to qualify for professional certification as fisheries or wildlife biologists should consult their academic advisors about specific courses needed for certification.

Pre-vet option - Fisheries, Wildlife, Conservation, and Environmental Biology

Students who complete K-State Core, College of Arts and Sciences Program requirements and the Fisheries, Wildlife, Conservation, and Environmental Biology Major Requirements, with the exception of up to 15 credit hours from courses under their declared degree sub-option (Fisheries Ecology and Management, Wildlife Ecology and Management, Conservation Biology, or Environmental Biology) and Fisheries, Wildlife, Conservation, and Environmental Biology electives, and have a minimum of 90 undergraduate credit hours prior to enrolling in the College of Veterinary Medicine at K-State, may earn a Fisheries, Wildlife, Conservation, and Environmental Biology degree after successful completion of at least 30 credit hours in veterinary medical school.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: (1 credit hour)

Alternatively, DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation

- BIOL 100 - Biology First-Year Orientation **Credits:** 1

Outside Concentration: (4-9+ credit hours)

Outside credential of at least 9 credit hours (May be from any unit, except Biology OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for BIOL) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: ([9] credit hours)

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

Required Program Courses: (44-48 credit hours)

Credit total assumes MATH 100, MATH 150, or MATH 220 counted as part of K-State Core #3

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 221 - Organismic Biology **Credits:** 5
- BIOL 333 - Introduction to Fisheries, Wildlife, Conservation and Environmental Biology **Credits:** 3
- BIOL 398 - Principles of Genetics **Credits:** 4
- BIOL 529 - Ecology **Credits:** 3
- BIOL 632 - Ecology Laboratory **Credits:** 1
- CHM 210 - Chemistry I **Credits:** 4
  Alternatively, CHM 220
- CHM 230 - Chemistry II **Credits:** 4
  Alternatively, CHM 250
- CHM 350 - General Organic Chemistry **Credits:** 3
  Alternatively, CHM 531 with CHM 550 recommended additionally
  AND
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
  Alternatively, CHM 532
  OR
- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
- MATH 100 - College Algebra **Credits:** 3

OR

- MATH 150 - Plane Trigonometry **Credits:** 3
  OR
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- PHYS 113 - General Physics I **Credits:** 4
  Alternatively, PHYS 213
  AND
- PHYS 114 - General Physics II **Credits:** 4
  Alternatively, PHYS 214
  OR
- PHYS 115 - Descriptive Physics **Credits:** 5

Choose one of the following: 3 credit hours

- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 250 - Business and Economic Statistics I **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

Choose one of the following: 3 credit hours

- STAT 341 - Biometrics II **Credits:** 3
- STAT 351 - Business and Economic Statistics II **Credits:** 3
- STAT 705 - Regression and Analysis of Variance **Credits:** 3

Required for Fisheries Ecology and Management option: (21 credit hours)

- BIOL 513 - Physiological Adaptations of Animals **Credits:** 4
- BIOL 542 - Ichthyology **Credits:** 3
- BIOL 612 - Freshwater Ecology **Credits:** 4
- BIOL 640 - Population Biology **Credits:** 3
- BIOL 682 - Fish Ecology **Credits:** 3
- BIOL 696 - Fisheries Management and Techniques **Credits:** 4

Major Electives: (6 credit hours)

Choose 6 credit hours from the lists below. Courses used here may not be used elsewhere.

Biology courses numbered 400 or above (other than BIOL 695 and BIOL 698). *Biology course listing can be found in the University Course Catalog.*

- BIOL 255 - General Microbiology **Credits:** 4
- BIOL 263 - Ecology of Environmental Problems **Credits:** 3
  Only 1 credit from BIOL 263 can be used toward FWCEB electives.
- BIOL 365 - Practicum in Biology **Credits:** 1-4
  No more than 2 credits from BIOL 365 can be used toward FWCEB electives.
  Research Courses. *A total of up to 3 credits from all Research Courses combined can be used toward FWCEB electives.*

- AGRON 598 - Undergraduate Research in Agronomy **Credits:** 0-18
- ASI 561 - Undergraduate Research in Animal Sciences & Industry **Credits:** 0-3
- BIOL 695 - Internship in Biology **Credits:** 1-3
- BIOL 698 - Research in Biology **Credits:** 0-8
- DAS 400 - Undergraduate Research in Arts and Sciences **Credits:** 0-3
- DAS 506 - Undergraduate Cancer Research **Credits:** 1
- ENTOM 482 - Research Experience in Entomology **Credits:** 1-3
- GEOG 497 - Undergraduate Research in Geography **Credits:** 1-3
- WOEM 495 - Undergraduate Research in Wildlife and Outdoor Enterprise Management **Credits:** 0-3

Courses From Other Departments (except research courses). *No more than 6 credits can be used from "Courses From Other Departments (except research courses)".*

- AGCOM 712 - Environmental Communication **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGRON 205 - Soils **Credits:** 3
- AGRON 335 - Environmental Quality **Credits:** 3
- AGRON 251 - Range Management **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AGRON 646 - Soil Microbiology Laboratory **Credits:** 1
- AGRON 660 - Grassland Monitoring and Assessment **Credits:** 2
- AGRON 661 - Grassland Monitoring and Assessment Lab **Credits:** 1
- AGRON 680 - Plant Genetics **Credits:** 3
- AGRON 681 - Range Ecology **Credits:** 3
- AGRON 682 - Grassland Fire Ecology **Credits:** 3
- AGRON 695 - Climate Change and Agriculture **Credits:** 3
- AGRON 781 - Ecology of Invasive Species **Credits:** 3
- ASI 218 - Fundamentals of Nutrition **Credits:** 3
- ASI 533 - Physiology of Domestic Animals **Credits:** 3
- ASI 540 - Principles of Animal Disease Control **Credits:** 3
- ASI 560 - Course-Based Undergraduate Research in Animal Sciences & Industry **Credits:** 2
- BIOCH 521 - General Biochemistry **Credits:** 3
- CHM 315 - Environmental Science: A Chemistry Perspective **Credits:** 3
- ECON 527 - Environmental Economics **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- ENTOM 625 - Integrative Behavioral Ecology **Credits:** 3
- ENTOM 635 - Insect Evolution **Credits:** 3
- ENTOM 660 - Introduction to Insect Genetics **Credits:** 3
- ENTOM 675 - Introduction to Insect Physiology **Credits:** 3
- ENTOM 692 - Insect Ecology **Credits:** 3
- ENTOM 695 - Insect Taxonomy **Credits:** 3
- GEOG 445 - Biogeography **Credits:** 3
- GEOG 460 - Human Dimensions of Global Change **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- GEOG 605 - Remote Sensing of the Environment **Credits:** 3
- GEOG 608 - Geographic Information Systems II **Credits:** 3
- GEOG 761 - Human Impact on the Environment **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3

- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- PHILO 595 - Environmental Ethics **Credits:** 3
- WOEM 400 - Pond and Sportfish Management **Credits:** 3
- WOEM 555 - Big Game Management **Credits:** 3
- WOEM 560 - Upland Game Bird Management **Credits:** 3
- WOEM 561 - Waterfowl and Wetlands Management **Credits:** 3
- WOEM 562 - Advanced Wildlife Habitat Management **Credits:** 4
- WOEM 620 - Human-Wildlife Conflicts **Credits:** 3

BS Arts, Humanities, and Social Sciences Restrictive Electives: (6 credit hours)

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses: (3 credit hours)

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq: (3 credit hours)

Free Electives: (1-4 credit hours)

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

Natural and Quantitative

- Natural Science: CHM 210 or CHM 220 (listed in Courses Required for the Fisheries, Wildlife, Conservation, and Environmental Biology Degree)
- Quantitative: STAT 225, STAT 240, STAT 250, or STAT 703 (listed in Courses Required for the Fisheries, Wildlife, Conservation, and Environmental Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) CHM 230 or CHM 250 (listed in Courses Required for the Fisheries, Wildlife, Conservation, and Environmental Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) BIOL 333 (listed in Courses Required for the Environmental Biology Option)

Fisheries, Wildlife, Conservation, and Environmental Biology - Wildlife Ecology and Management (BS)

A degree in fisheries, wildlife, conservation, or environmental biology provides a strong biological background allowing graduates to contribute to managing and protecting the natural world. In addition to the requirements of the University and the College of Arts and Sciences, Fisheries, Wildlife, Conservation, and Environmental Biology majors must take the courses indicated below and choose one of the four tracks to complete. Students who wish to qualify for professional certification as fisheries or wildlife biologists should consult their academic advisors about specific courses needed for certification.

Pre-vet option - Fisheries, Wildlife, Conservation, and Environmental Biology

Students who complete K-State Core, College of Arts and Sciences Program requirements and the Fisheries, Wildlife, Conservation, and Environmental Biology Major Requirements, with the exception of up to 15 credit hours from courses under their declared degree sub-option (Fisheries Ecology and Management, Wildlife Ecology and Management, Conservation Biology, or Environmental Biology) and Fisheries, Wildlife, Conservation, and Environmental Biology electives, and have a minimum of 90 undergraduate credit hours prior to enrolling in the College of Veterinary Medicine at K-State, may earn a Fisheries, Wildlife, Conservation, and Environmental Biology degree after successful completion of at least 30 credit hours in veterinary medical school.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: (1 credit hours)

- BIOL 100 - Biology First-Year Orientation **Credits:** 1
  OR
- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: (4-9+ credit hours)

Outside credential of at least 9 credit hours (May be from any unit, except Biology OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for BIOL) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: ([9] credit hours)

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

Required Program Courses (44-48 credit hours)

Credit total assumes MATH 100, MATH 150, or MATH 220 counted as part of K-State Core #3

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 221 - Organismic Biology **Credits:** 5
- BIOL 333 - Introduction to Fisheries, Wildlife, Conservation and Environmental Biology **Credits:** 3
- BIOL 398 - Principles of Genetics **Credits:** 4
- BIOL 529 - Ecology **Credits:** 3
- BIOL 632 - Ecology Laboratory **Credits:** 1
- CHM 210 - Chemistry I **Credits:** 4
  Alternatively, CHM 220
- CHM 230 - Chemistry II **Credits:** 4
  Alternatively, CHM 250
- CHM 350 - General Organic Chemistry **Credits:** 3
  Alternatively, CHM 531 with CHM 550 recommended additionally
  AND
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
  Alternatively, CHM 532
  OR
- BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
- MATH 100 - College Algebra **Credits:** 3
  OR
- MATH 150 - Plane Trigonometry **Credits:** 3
  OR
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- PHYS 113 - General Physics I **Credits:** 4
  Alternatively, PHYS 213
  AND
- PHYS 114 - General Physics II **Credits:** 4
  Alternatively, PHYS 214
  OR
- PHYS 115 - Descriptive Physics **Credits:** 5

Choose one of the following: 3 credit hours

- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 250 - Business and Economic Statistics I **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

Choose one of the following: 3 credit hours

- STAT 341 - Biometrics II **Credits:** 3
- STAT 351 - Business and Economic Statistics II **Credits:** 3
- STAT 705 - Regression and Analysis of Variance **Credits:** 3

Courses Required for Wildlife Ecology and Management option: (21 credit hours)

- BIOL 513 - Physiological Adaptations of Animals **Credits:** 4
- BIOL 543 - Ornithology **Credits:** 3
- BIOL 544 - Mammalogy **Credits:** 3
- BIOL 551 - Taxonomy of Flowering Plants **Credits:** 4
- BIOL 640 - Population Biology **Credits:** 3
- BIOL 684 - Wildlife Management and Techniques **Credits:** 4

Major Electives: (6 credit hours)

Choose 6 credit hours from the lists below. Courses used here may not be used elsewhere.

Biology courses numbered 400 or above (other than BIOL 695 and BIOL 698). *Biology course listing can be found in the University Course Catalog.*

- BIOL 255 - General Microbiology **Credits:** 4
- BIOL 263 - Ecology of Environmental Problems **Credits:** 3
  Only 1 credit from BIOL 263 can be used toward FWCEB electives.
- BIOL 365 - Practicum in Biology **Credits:** 1-4
  No more than 2 credits from BIOL 365 can be used toward FWCEB electives.

Research Courses. *A total of up to 3 credits from all Research Courses combined can be used toward FWCEB electives.*

- AGRON 598 - Undergraduate Research in Agronomy **Credits:** 0-18
- ASI 561 - Undergraduate Research in Animal Sciences & Industry **Credits:** 0-3
- BIOL 695 - Internship in Biology **Credits:** 1-3
- BIOL 698 - Research in Biology **Credits:** 0-8
- DAS 400 - Undergraduate Research in Arts and Sciences **Credits:** 0-3
- DAS 506 - Undergraduate Cancer Research **Credits:** 1
- ENTOM 482 - Research Experience in Entomology **Credits:** 1-3
- GEOG 497 - Undergraduate Research in Geography **Credits:** 1-3
- WOEM 495 - Undergraduate Research in Wildlife and Outdoor Enterprise Management **Credits:** 0-3

Courses From Other Departments (except research courses). *No more than 6 credits can be used from "Courses From Other Departments (except research courses)".*

- AGCOM 712 - Environmental Communication **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGRON 205 - Soils **Credits:** 3
- AGRON 251 - Range Management **Credits:** 3
- AGRON 335 - Environmental Quality **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AGRON 646 - Soil Microbiology Laboratory **Credits:** 1
- AGRON 660 - Grassland Monitoring and Assessment **Credits:** 2
- AGRON 661 - Grassland Monitoring and Assessment Lab **Credits:** 1
- AGRON 680 - Plant Genetics **Credits:** 3
- AGRON 681 - Range Ecology **Credits:** 3
- AGRON 682 - Grassland Fire Ecology **Credits:** 3
- AGRON 695 - Climate Change and Agriculture **Credits:** 3

- AGRON 781 - Ecology of Invasive Species **Credits:** 3
- ASI 218 - Fundamentals of Nutrition **Credits:** 3
- ASI 533 - Physiology of Domestic Animals **Credits:** 3
- ASI 540 - Principles of Animal Disease Control **Credits:** 3
- ASI 560 - Course-Based Undergraduate Research in Animal Sciences & Industry **Credits:** 2
- BIOCH 521 - General Biochemistry **Credits:** 3
- CHM 315 - Environmental Science: A Chemistry Perspective **Credits:** 3
- ECON 527 - Environmental Economics **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- ENTOM 625 - Integrative Behavioral Ecology **Credits:** 3
- ENTOM 635 - Insect Evolution **Credits:** 3
- ENTOM 660 - Introduction to Insect Genetics **Credits:** 3
- ENTOM 675 - Introduction to Insect Physiology **Credits:** 3
- ENTOM 692 - Insect Ecology **Credits:** 3
- ENTOM 695 - Insect Taxonomy **Credits:** 3
- GEOG 445 - Biogeography **Credits:** 3
- GEOG 460 - Human Dimensions of Global Change **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- GEOG 605 - Remote Sensing of the Environment **Credits:** 3
- GEOG 608 - Geographic Information Systems II **Credits:** 3
- GEOG 761 - Human Impact on the Environment **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- PHILO 595 - Environmental Ethics **Credits:** 3
- WOEM 400 - Pond and Sportfish Management **Credits:** 3
- WOEM 555 - Big Game Management **Credits:** 3
- WOEM 560 - Upland Game Bird Management **Credits:** 3
- WOEM 561 - Waterfowl and Wetlands Management **Credits:** 3
- WOEM 562 - Advanced Wildlife Habitat Management **Credits:** 4
- WOEM 620 - Human-Wildlife Conflicts **Credits:** 3

BS Arts, Humanities, and Social Sciences Restrictive Electives: (6 credit hours)

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses: (3 credit hours)

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq: (3 credit hours)

Free Electives: (1-4 credit hours)

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

Natural and Quantitative

- Natural Science: CHM 210 or CHM 220 (listed in Courses Required for the Fisheries, Wildlife, Conservation, and Environmental Biology Degree)
- Quantitative: STAT 225, STAT 240, STAT 250, or STAT 703 (listed in Courses Required for the Fisheries, Wildlife, Conservation, and Environmental Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) CHM 230 or CHM 250 (listed in Courses Required for the Fisheries, Wildlife, Conservation, and Environmental Biology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) BIOL 333 (listed in Courses Required for the Wildlife Ecology and Management Option)

Microbiology - General Microbiology (BS)

A degree in microbiology provides an excellent foundation for students moving directly into the job market, going into medical, dental, medical technology, and veterinary programs, or going into graduate programs in the biological sciences. Students can choose electives in prokaryotic microbiology, eukaryotic microbiology, biotechnology/genetic engineering, immunology, and infectious diseases. In addition to the requirements of the University and the College of Arts and Sciences, Microbiology majors must take the courses indicated below and choose one of the following two tracks to complete: General or Medical Microbiology.

Pre-vet option - Microbiology

Students who complete the K-State Core, College of Arts and Sciences Program requirements and Microbiology Major Requirements, with the exception of up to 15 credit hours from courses under their declared degree sub-option (General Microbiology or Medical Microbiology) and Microbiology Electives, and have a minimum of 90 undergraduate credit hours prior to enrolling in the College of Veterinary Medicine at K-State, may earn a Microbiology degree after successful completion of at least 30 credit hours in veterinary medical school.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: (1 credit hour)

- BIOL 100 - Biology First-Year Orientation **Credits:** 1
  Alternatively, DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation

Outside Concentration: (4-9+ credit hours)

Outside credential of at least 9 credit hours (May be from any unit **except for Biology** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix **except for BIOL** (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: ([9] credit hours)

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Required for the Microbiology Degree: (45-49 credit hours)

Credit total assumes MATH 220 counted as part of the K-State Core 3

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 255 - General Microbiology **Credits:** 4
- BIOL 398 - Principles of Genetics **Credits:** 4
- BIOL 541 - Cell Biology **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
  OR
- BIOCH 755 - Biochemistry I **Credits:** 3
  Alternatively, BIOCH 755 with BIOCH 765 recommended additionally but not required
- BIOCH 765 - Biochemistry II **Credits:** 3
- CHM 210 - Chemistry I **Credits:** 4
  OR
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
  OR
- CHM 250 - Honors Chemistry II **Credits:** 5
- CHM 350 - General Organic Chemistry **Credits:** 3
  OR
- CHM 531 - Organic Chemistry I **Credits:** 3
  Alternatively, CHM 531 with CHM 550 recommended additionally but not required

- CHM 550 - Organic Chemistry II **Credits:** 3
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
  OR
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
  OR
- MATH 250 - Mathematical Scholars Calculus 1 **Credits:** 4
- PHYS 113 - General Physics I **Credits:** 4
  OR
- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 114 - General Physics II **Credits:** 4
  OR
- PHYS 214 - Engineering Physics II **Credits:** 5

Choose one course from the following (credit hours included in total Required for the Microbiology Degree)

Choose one course from the following for 3-4 Credit Horus (CC 110 and CC 111 must be taken together to meet this requirement)

- CC 110 - Introduction to Computing **Credits:** 2
  AND
- CC 111 - Elements of Computer Programming **Credits:** 1
- CC 210 - Fundamental Computer Programming Concepts **Credits:** 4
- CIS 200 - Programming Fundamentals **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- MATH 551 - Applied Matrix Theory **Credits:** 3
- MATH 615 - Introduction to Digital Image Processing **Credits:** 3
- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 701 - Fundamental Methods of Biostatistics **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

Required for the General Microbiology option: (9 credit hours)

- BIOL 520 - Evolution **Credits:** 3
  OR
- BIOL 521 - Evolution of Infectious Diseases **Credits:** 3
- BIOL 675 - Genetics of Microorganisms **Credits:** 3
- BIOL 687 - Microbial Ecology **Credits:** 3

Major Electives for the Microbiology Degree: (11 credit hours)

Choose 11 credit hours from the lists below. At least 5 of the 11 credit hours must be laboratory. No more than 6 credits can be counted from courses outside of BIOL (**Research Courses** do not count toward this limit). Courses used here may not be used elsewhere.

Courses in this section count as all lecture credit (0 toward lab credit).

- BIOL 365 - Practicum in Biology **Credits:** 1-4
  No more than 2 credits from BIOL 365 can be used toward MICRO electives
- BIOL 410 - Biology of the Cancer Cell **Credits:** 3
- BIOL 462 - Phage Hunters 2 **Credits:** 2
- BIOL 495 - Topics in Biology **Credits:** 1-6
  OR
- BIOL 697 - Topics in Biology **Credits:** 1-6
  No more than 3 credit hours from BIOL 495 plus BIOL 697 can be used toward MICRO electives.
- BIOL 520 - Evolution **Credits:** 3
- BIOL 521 - Evolution of Infectious Diseases **Credits:** 3
- BIOL 545 - Human Parasitology **Credits:** 3
- BIOL 580 - Molecular Biology of Genes and Genomes **Credits:** 3
- BIOL 609 - Cellular and Molecular Biology of Human Diseases **Credits:** 3
- BIOL 670 - Immunology **Credits:** 3
- BIOL 675 - Genetics of Microorganisms **Credits:** 3
- BIOL 687 - Microbial Ecology **Credits:** 3
- BIOL 705 - Eukaryotic Genetics **Credits:** 3
- BIOL 707 - Advanced Cell Biology **Credits:** 3
- BIOL 730 - General Virology **Credits:** 3
- BIOL 734 - Introduction to Genomics and Bioinformatics **Credits:** 4
- AGRON 610 - Biotechnology **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AP 600 - Introduction to Pharmacology for Health Professionals **Credits:** 3
- AP 711 - Stem Cells and Comparative Biomedicine **Credits:** 2
- ASI 218 - Fundamentals of Nutrition **Credits:** 3
- ASI 540 - Principles of Animal Disease Control **Credits:** 3
- BAE 445 - Biological Engineering Fundamentals **Credits:** 3
- BIOCH 571 - Medical Biochemistry **Credits:** 3
- BIOCH 755 - Biochemistry I **Credits:** 3
- BIOCH 765 - Biochemistry II **Credits:** 3
- BIOCH 775 - Molecular Biophysics **Credits:** 3
- DMP 691 - Introduction to High Containment Laboratory Topics and Techniques **Credits:** 3
- DMP 710 - Introduction to One Health **Credits:** 2
- DMP 754 - Introduction to Epidemiology **Credits:** 3
- DMP 770 - Emerging Diseases **Credits:** 3
- ENTOM 649 - Introduction to Arthropod Vectors of Human Pathogens **Credits:** 3
- FDSCI 600 - Food Microbiology **Credits:** 2
- FNDH 654 - Pathophysiology and Clinical Evaluation **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3
- PLPTH 610 - Biotechnology **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
  Courses in this section count 1 credit toward lab credit.
- BIOL 441 - Human Body I **Credits:** 4
- BIOL 530 - Pathogenic Microbiology **Credits:** 3
- BIOL 546 - Human Parasitology Laboratory **Credits:** 1
- BIOL 604 - Biology of the Fungi **Credits:** 3
- AGRON 646 - Soil Microbiology Laboratory **Credits:** 1

- ASI 560 - Course-Based Undergraduate Research in Animal Sciences & Industry **Credits:** 2
- BIOCH 757 - NMR Laboratory **Credits:** 1
- BIOCH 758 - Protein Structure Laboratory **Credits:** 1
- BIOCH 766 - Recombinant DNA Laboratory I **Credits:** 1
- BIOCH 767 - Recombinant DNA Laboratory II **Credits:** 1
- DMP 690 - Essential Practices for BSL-3 Research Settings **Credits:** 1
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3
- PLPTH 585 - Crop Diseases **Credits:** 2

  Courses in this section count 2 credits toward lab credit.
- BIOL 461 - Phage Hunters I **Credits:** 3
- BIOL 671 - Immunology Lab **Credits:** 2
- BIOCH 756 - Biochemistry I Laboratory **Credits:** 2
- ENTOM 652 - Introduction to Insect Molecular Techniques **Credits:** 2
- FDSCI 601 - Food Microbiology Lab **Credits:** 2

  Courses in this section count 3 credits toward lab credit.
- BIOL 676 - Molecular Genetics Laboratory **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3

  Research Courses: A total of up to 3 credits from all Research Courses combined can be used toward MICRO lab electives.
- AGRON 598 - Undergraduate Research in Agronomy **Credits:** 0-18
- AP 790 - Problems in Anatomy and Physiology **Credits:** 1-18
- ASI 561 - Undergraduate Research in Animal Sciences & Industry **Credits:** 0-3
- BAE 497 - Undergraduate Research Experience **Credits:** 0-3
- BAE 499 - Honors Research in Biological Systems Engineering **Credits:** 1-18
- BIOCH 599 - Research Training in Biochemistry **Credits:** 1-3
- BIOL 695 - Internship in Biology **Credits:** 1-3
- BIOL 698 - Research in Biology **Credits:** 0-8
- CHE 497 - Undergraduate Research Experience **Credits:** 0-3
- CHM 497 - Research in Undergraduate Chemistry **Credits:** 1-3
- DAS 400 - Undergraduate Research in Arts and Sciences **Credits:** 0-3
- DAS 506 - Undergraduate Cancer Research **Credits:** 1
- DMP 680 - Problems in Pathobiology **Credits:** 1-5
- ENTOM 482 - Research Experience in Entomology **Credits:** 1-3
- PLPTH 495 - Undergraduate Research in Plant Pathology **Credits:** 0-3

BS Arts, Humanities, and Social Sciences Restricted Electives: (6 credit hours)

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses: (3 credit hours)

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq: (3 credit hours)

Free Electives: (4-9 credit hours)

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

Natural and Quantitative

- Natural Science: CHM 210 or CHM 220 (listed in Courses Required for the Microbiology Degree)
- Quantitative: STAT 225, STAT 240, STAT 701, STAT 703; MATH 221, MATH 551, MATH 615; CC 110 plus CC 111, CC 210; CIS 200 (listed in Courses Required for the Microbiology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) CHM 230 or CHM 250 (listed in Courses Required for the Microbiology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) BIOL 255 (listed in Courses Required for the Microbiology Degree)

Microbiology - Medical Microbiology (BS)

A degree in microbiology provides an excellent foundation for students moving directly into the job market, going into medical, dental, medical technology, and veterinary programs, or going into graduate programs in the biological sciences. Students can choose electives in prokaryotic microbiology, eukaryotic microbiology, biotechnology/genetic engineering, immunology, and infectious diseases. In addition to the requirements of the University and the College of Arts and Sciences, Microbiology majors must take the courses indicated below and choose one of the following two tracks to complete: General or Medical Microbiology.

Pre-vet option - Microbiology

Students who complete the K-State Core, College of Arts and Sciences Program requirements and Microbiology Major Requirements, with the exception of up to 15 credit hours from courses under their declared degree sub-option (General Microbiology or Medical Microbiology) and Microbiology Electives, and have a minimum of 90 undergraduate credit hours prior to enrolling in the College of Veterinary Medicine at K-State, may earn a Microbiology degree after successful completion of at least 30 credit hours in veterinary medical school.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: (1 credit hour)

Alternatively, DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation

- BIOL 100 - Biology First-Year Orientation **Credits:** 1

Outside Concentration: (4-9+ credit hours)

Outside credential of at least 9 credit hours (May be from any unit, **except for Biology** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for BIOL**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: ([9] credit hours)

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Required for the Microbiology Degree: (45-49 credit hours)

Credit total assumes MATH 220 counted as part of the K-State Core 3

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 255 - General Microbiology **Credits:** 4
- BIOL 398 - Principles of Genetics **Credits:** 4
- BIOL 541 - Cell Biology **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
  OR
- BIOCH 755 - Biochemistry I **Credits:** 3
  Alternatively, BIOCH 755 with BIOCH 765 recommended additionally but not required
- BIOCH 756 - Biochemistry I Laboratory **Credits:** 2
- CHM 210 - Chemistry I **Credits:** 4
  OR
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
  OR
- CHM 250 - Honors Chemistry II **Credits:** 5
- CHM 350 - General Organic Chemistry **Credits:** 3
  OR

- CHM 531 - Organic Chemistry I **Credits:** 3
  Alternatively, CHM 531 with CHM 550 recommended additionally but not required
- CHM 550 - Organic Chemistry II **Credits:** 3
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
  OR
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
  OR
- MATH 250 - Mathematical Scholars Calculus 1 **Credits:** 4
- PHYS 113 - General Physics I **Credits:** 4
  OR
- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 114 - General Physics II **Credits:** 4
  OR
  A class chosen from STAT 225, STAT 240, STAT 701, STAT 703; MATH 221, MATH 551, MATH 615; CC 110 plus CC 111, CC 210; CIS 200 for at least 3 Credit Hours
- PHYS 214 - Engineering Physics II **Credits:** 5

Choose one course from the following (credit hours included in total Required for the Microbiology Degree)

Choose one course from the following for 3-4 Credit Horus (CC 110 and CC 111 must be taken together to meet this requirement)

- CC 110 - Introduction to Computing **Credits:** 2
  AND
- CC 111 - Elements of Computer Programming **Credits:** 1
- CC 210 - Fundamental Computer Programming Concepts **Credits:** 4
- CIS 200 - Programming Fundamentals **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- MATH 551 - Applied Matrix Theory **Credits:** 3
- MATH 615 - Introduction to Digital Image Processing **Credits:** 3
- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 701 - Fundamental Methods of Biostatistics **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

Required for the Medical Microbiology option: (9 credit hours)

BIOL 670 required for 3 Credit Hours; Students may then select two of the other 3 credit hour courses from the list

- BIOL 670 - Immunology **Credits:** 3
  Two of the following:
- BIOL 530 - Pathogenic Microbiology **Credits:** 3
- BIOL 545 - Human Parasitology **Credits:** 3
- BIOL 675 - Genetics of Microorganisms **Credits:** 3
- BIOL 730 - General Virology **Credits:** 3

Major Electives for the Microbiology Degree: (11 credit hours)

Choose 11 credit hours from the lists below. At least 5 of the 11 credit hours must be laboratory. No more than 6 credits can be counted from courses outside of BIOL (**Research Courses** do not count toward this limit). Courses used here may not be used elsewhere.

Courses in this section count as all lecture credit (0 toward lab credit).

- BIOL 365 - Practicum in Biology **Credits:** 1-4
  No more than 2 credits from BIOL 365 can be used toward MICRO electives
- BIOL 410 - Biology of the Cancer Cell **Credits:** 3
- BIOL 462 - Phage Hunters 2 **Credits:** 2
- BIOL 495 - Topics in Biology **Credits:** 1-6
  OR
- BIOL 697 - Topics in Biology **Credits:** 1-6
  No more than 3 credit hours from BIOL 495 plus BIOL 697 can be used toward MICRO electives.
- BIOL 520 - Evolution **Credits:** 3
- BIOL 521 - Evolution of Infectious Diseases **Credits:** 3
- BIOL 545 - Human Parasitology **Credits:** 3
- BIOL 580 - Molecular Biology of Genes and Genomes **Credits:** 3
- BIOL 609 - Cellular and Molecular Biology of Human Diseases **Credits:** 3
- BIOL 670 - Immunology **Credits:** 3
- BIOL 675 - Genetics of Microorganisms **Credits:** 3
- BIOL 687 - Microbial Ecology **Credits:** 3
- BIOL 705 - Eukaryotic Genetics **Credits:** 3
- BIOL 707 - Advanced Cell Biology **Credits:** 3
- BIOL 730 - General Virology **Credits:** 3
- BIOL 734 - Introduction to Genomics and Bioinformatics **Credits:** 4
- AGRON 610 - Biotechnology **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AP 600 - Introduction to Pharmacology for Health Professionals **Credits:** 3
- AP 711 - Stem Cells and Comparative Biomedicine **Credits:** 2
- ASI 218 - Fundamentals of Nutrition **Credits:** 3
- ASI 540 - Principles of Animal Disease Control **Credits:** 3
- BAE 445 - Biological Engineering Fundamentals **Credits:** 3
- BIOCH 571 - Medical Biochemistry **Credits:** 3
- BIOCH 755 - Biochemistry I **Credits:** 3
- BIOCH 765 - Biochemistry II **Credits:** 3
- BIOCH 775 - Molecular Biophysics **Credits:** 3
- DMP 691 - Introduction to High Containment Laboratory Topics and Techniques **Credits:** 3
- DMP 710 - Introduction to One Health **Credits:** 2
- DMP 754 - Introduction to Epidemiology **Credits:** 3
- DMP 770 - Emerging Diseases **Credits:** 3
- ENTOM 649 - Introduction to Arthropod Vectors of Human Pathogens **Credits:** 3
- FDSCI 600 - Food Microbiology **Credits:** 2
- FNDH 654 - Pathophysiology and Clinical Evaluation **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3
- PLPTH 610 - Biotechnology **Credits:** 3

- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

Courses in this section count 1 credit toward lab credit.

- BIOL 441 - Human Body I **Credits:** 4
- BIOL 530 - Pathogenic Microbiology **Credits:** 3
- BIOL 546 - Human Parasitology Laboratory **Credits:** 1
- BIOL 604 - Biology of the Fungi **Credits:** 3
- AGRON 646 - Soil Microbiology Laboratory **Credits:** 1
- ASI 560 - Course-Based Undergraduate Research in Animal Sciences & Industry **Credits:** 2
- BIOCH 757 - NMR Laboratory **Credits:** 1
- BIOCH 758 - Protein Structure Laboratory **Credits:** 1
- BIOCH 766 - Recombinant DNA Laboratory I **Credits:** 1
- BIOCH 767 - Recombinant DNA Laboratory II **Credits:** 1
- DMP 690 - Essential Practices for BSL-3 Research Settings **Credits:** 1
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3
- PLPTH 585 - Crop Diseases **Credits:** 2

Courses in this section count 2 credits toward lab credit.

- BIOL 461 - Phage Hunters I **Credits:** 3
- BIOL 671 - Immunology Lab **Credits:** 2
- BIOCH 756 - Biochemistry I Laboratory **Credits:** 2
- ENTOM 652 - Introduction to Insect Molecular Techniques **Credits:** 2
- FDSCI 601 - Food Microbiology Lab **Credits:** 2

Courses in this section count 3 credits toward lab credit.

- BIOL 676 - Molecular Genetics Laboratory **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3

Research Courses: A total of up to 3 credits from all Research Courses combined can be used toward MICRO lab electives.

- AGRON 598 - Undergraduate Research in Agronomy **Credits:** 0-18
- AP 790 - Problems in Anatomy and Physiology **Credits:** 1-18
- ASI 561 - Undergraduate Research in Animal Sciences & Industry **Credits:** 0-3
- BAE 497 - Undergraduate Research Experience **Credits:** 0-3
- BAE 499 - Honors Research in Biological Systems Engineering **Credits:** 1-18
- BIOCH 599 - Research Training in Biochemistry **Credits:** 1-3
- BIOL 695 - Internship in Biology **Credits:** 1-3
- BIOL 698 - Research in Biology **Credits:** 0-8
- CHE 497 - Undergraduate Research Experience **Credits:** 0-3
- CHM 497 - Research in Undergraduate Chemistry **Credits:** 1-3
- DAS 400 - Undergraduate Research in Arts and Sciences **Credits:** 0-3
- DAS 506 - Undergraduate Cancer Research **Credits:** 1
- DMP 680 - Problems in Pathobiology **Credits:** 1-5
- ENTOM 482 - Research Experience in Entomology **Credits:** 1-3
- PLPTH 495 - Undergraduate Research in Plant Pathology **Credits:** 0-3

BS Arts, Humanities, and Social Sciences Restricted Electives: (6 credit hours)

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses: (3 credit hours)

Non-Quantitative Social Science: Any social science course that does Not have a MATH or STAT prereq: (3 credit hours)

Free Electives: (4-9 credit hours)

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

Natural and Quantitative

- Natural Science: CHM 210 or CHM 220 (listed in Courses Required for the Microbiology Degree)
- Quantitative: STAT 225, STAT 240, STAT 701, STAT 703; MATH 221, MATH 551, MATH 615; CC 110 plus CC 111, CC 210; CIS 200 (listed in Courses Required for the Microbiology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) CHM 230 or CHM 250 (listed in Courses Required for the Microbiology Degree)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) BIOL 255 (listed in Courses Required for the Medical Microbiology Degree Option)

Minor

Biology Minor

Biology is the study of life. A minor in biology covers biology basics and provides the opportunity to explore a biological area or areas of interest.

Program requirements

The Biology minor requires 17 credits in addition to BIOL 198. At least 11 of the 17 credits must be from BIOL courses (List 1). Up to 3 credit hours of Research Credits (List 2) may count toward the minor. Up to 3 credit hours of Courses From Other Departments (except research courses) (List 3) may count toward the minor. Note that this means that only 3 credit hours of List 3 courses that are 4 credit hours or above will be counted. No more than 6 hours of transfer course work can count toward the minor.

Required Courses (4 credit hours)

- BIOL 198 - Principles of Biology **Credits:** 4

Biology Courses (at least 11 credit hours)

Any BIOL course (other than BIOL 198, BIOL 695 or BIOL 698). Biology course listing can be found in the University Course Catalog.

Research Courses - Choose no more than 3 credit hours from the list below.

Choose from the course list below. No more than 3 credit hours from all Research Courses combined can be used toward the biology minor.

- AGRON 598 - Undergraduate Research in Agronomy **Credits:** 0-18
- AP 790 - Problems in Anatomy and Physiology **Credits:** 1-18
- ASI 561 - Undergraduate Research in Animal Sciences & Industry **Credits:** 0-3
- BAE 497 - Undergraduate Research Experience **Credits:** 0-3
- BAE 499 - Honors Research in Biological Systems Engineering **Credits:** 1-18
- BIOCH 599 - Research Training in Biochemistry **Credits:** 1-3
- BIOL 695 - Internship in Biology **Credits:** 1-3
- BIOL 698 - Research in Biology **Credits:** 0-8
- CHE 497 - Undergraduate Research Experience **Credits:** 0-3
- CHM 497 - Research in Undergraduate Chemistry **Credits:** 1-3
- DAS 400 - Undergraduate Research in Arts and Sciences **Credits:** 0-3
- DAS 506 - Undergraduate Cancer Research **Credits:** 1
- DMP 680 - Problems in Pathobiology **Credits:** 1-5
- ENTOM 399 - Undergraduate Research Experience **Credits:** 0-3
- ENTOM 482 - Research Experience in Entomology **Credits:** 1-3
- GEOG 497 - Undergraduate Research in Geography **Credits:** 1-3
- KIN 597 - Research Experience in Kinesiology **Credits:** 0-3
- PLPTH 495 - Undergraduate Research in Plant Pathology **Credits:** 0-3
- PSYCH 599 - Research in Psychology **Credits:** 0-18
- WOEM 495 - Undergraduate Research in Wildlife and Outdoor Enterprise Management **Credits:** 0-3

Courses From Other Departments (except research courses)

Choose from the course list below. No more than 3 credits can be used from Courses From Other Departments (except research courses). Research courses do not count toward 3 credit total limit.

- AGCOM 712 - Environmental Communication **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- AGRON 205 - Soils **Credits:** 3
- AGRON 251 - Range Management **Credits:** 3
- AGRON 335 - Environmental Quality **Credits:** 3
- AGRON 610 - Biotechnology **Credits:** 3
- AGRON 620 - Applied Crop Physiology **Credits:** 3
- AGRON 630 - Crop Improvement and Biotechnology **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AGRON 646 - Soil Microbiology Laboratory **Credits:** 1
- AGRON 660 - Grassland Monitoring and Assessment **Credits:** 2
- AGRON 661 - Grassland Monitoring and Assessment Lab **Credits:** 1
- AGRON 680 - Plant Genetics **Credits:** 3

- AGRON 681 - Range Ecology **Credits:** 3
- AGRON 682 - Grassland Fire Ecology **Credits:** 3
- AGRON 695 - Climate Change and Agriculture **Credits:** 3
- AGRON 781 - Ecology of Invasive Species **Credits:** 3
- AP 600 - Introduction to Pharmacology for Health Professionals **Credits:** 3
- AP 641 - Histology for Health Professions **Credits:** 3
- AP 711 - Stem Cells and Comparative Biomedicine **Credits:** 2
- ASI 218 - Fundamentals of Nutrition **Credits:** 3
- ASI 533 - Physiology of Domestic Animals **Credits:** 3
- ASI 540 - Principles of Animal Disease Control **Credits:** 3
- ASI 560 - Course-Based Undergraduate Research in Animal Sciences & Industry **Credits:** 2
- ASI 658 - Animal Growth and Development **Credits:** 3
- BAE 445 - Biological Engineering Fundamentals **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3
- BIOCH 571 - Medical Biochemistry **Credits:** 3
- BIOCH 755 - Biochemistry I **Credits:** 3
- BIOCH 756 - Biochemistry I Laboratory **Credits:** 2
- BIOCH 757 - NMR Laboratory **Credits:** 1
- BIOCH 758 - Protein Structure Laboratory **Credits:** 1
- BIOCH 765 - Biochemistry II **Credits:** 3
- BIOCH 766 - Recombinant DNA Laboratory I **Credits:** 1
- BIOCH 767 - Recombinant DNA Laboratory II **Credits:** 1
- BIOCH 775 - Molecular Biophysics **Credits:** 3
- CHM 315 - Environmental Science: A Chemistry Perspective **Credits:** 3
- DMP 690 - Essential Practices for BSL-3 Research Settings **Credits:** 1
- DMP 691 - Introduction to High Containment Laboratory Topics and Techniques **Credits:** 3
- DMP 710 - Introduction to One Health **Credits:** 2
- DMP 754 - Introduction to Epidemiology **Credits:** 3
- DMP 770 - Emerging Diseases **Credits:** 3
- ECON 527 - Environmental Economics **Credits:** 3
- ENTOM 312 - General Entomology **Credits:** 3
- ENTOM 625 - Integrative Behavioral Ecology **Credits:** 3
- ENTOM 630 - Introduction to Molecular Entomology **Credits:** 2
- ENTOM 635 - Insect Evolution **Credits:** 3
- ENTOM 649 - Introduction to Arthropod Vectors of Human Pathogens **Credits:** 3
- ENTOM 652 - Introduction to Insect Molecular Techniques **Credits:** 2
- ENTOM 660 - Introduction to Insect Genetics **Credits:** 3
- ENTOM 675 - Introduction to Insect Physiology **Credits:** 3
- ENTOM 692 - Insect Ecology **Credits:** 3
- ENTOM 695 - Insect Taxonomy **Credits:** 3
- FDSCI 600 - Food Microbiology **Credits:** 2
- FDSCI 601 - Food Microbiology Lab **Credits:** 2
- FNDH 400 - Human Nutrition **Credits:** 3
- FNDH 620 - Nutrient Metabolism **Credits:** 3
- FNDH 654 - Pathophysiology and Clinical Evaluation **Credits:** 3

- GEOG 445 - Biogeography **Credits:** 3
- GEOG 460 - Human Dimensions of Global Change **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- GEOG 605 - Remote Sensing of the Environment **Credits:** 3
- GEOG 608 - Geographic Information Systems II **Credits:** 3
- GEOG 761 - Human Impact on the Environment **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3
- KIN 601 - Cardiorespiratory Physiology **Credits:** 3
- KIN 603 - Cardiovascular Physiology **Credits:** 3
- KIN 607 - Muscle Physiology **Credits:** 3
- KIN 609 - Environmental Physiology **Credits:** 3
- KIN 611 - Autonomic Neurophysiology **Credits:** 3
- KIN 615 - Cardiorespiratory/Comparative Physiology in Health and Disease **Credits:** 3
- KIN 617 - Signaling Pathways in Physiology **Credits:** 3
- KIN 657 - Integrative Human Pathophysiology **Credits:** 3
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- PHILO 595 - Environmental Ethics **Credits:** 3
- PLPTH 500 - Principles of Plant Pathology **Credits:** 3
- PLPTH 585 - Crop Diseases **Credits:** 2
- PLPTH 610 - Biotechnology **Credits:** 3
- PSYCH 470 - Principles of Neuroscience **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
- WOEM 400 - Pond and Sportfish Management **Credits:** 3
- WOEM 555 - Big Game Management **Credits:** 3
- WOEM 560 - Upland Game Bird Management **Credits:** 3
- WOEM 561 - Waterfowl and Wetlands Management **Credits:** 3
- WOEM 562 - Advanced Wildlife Habitat Management **Credits:** 4
- WOEM 620 - Human-Wildlife Conflicts **Credits:** 3

Total Hours Required: (21)

Other Program Choices

Biology (BA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.			
First Year	**Hours**	**K-State Core**	
Semester 1			
BIOL 100 - Biology First-Year Orientation **OR**	1		
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		

BIOL 198 - Principles of Biology	4	**KSC 040**
ENGL 100 -Expository Writing I	3	**KSC 010**
Social & Behavioral Sciences Requirement (US Multicultural Overlay)	3	**KSC 050**
Language Course	4	**KSC 060**
Total Credits: 15		
Semester 2		
BIOL 221 - Organismic Biology	5	
COMM 106 - Public Speaking I	3	
MATH 100 - College Algebra **OR**	3	**KSC 030**
MATH 150 - Plane Trigonometry **OR**	3	**KSC 030**
MATH 220 - Analytic Geometry and Calculus I	4	
Language Course	4	
Total Credits: 15		
Second Year		
Semester 1		
Biology Elective	3	
CHM 210 - Chemistry I	4	
ENGL 200 - Expository Writing II	3	**KSC 010**
Language Course	3	
Social and Behavioral Science and Global Perspectives Overlay	3	**KSC 050**
Total Credits: 16		
Semester 2		

Biology Elective	3	
CHM 230 - Chemistry II	4	
STAT 225 - Introduction to Statistics **OR**	3	
STAT 240 - Biometrics I **OR**	3	
STAT 701 - Fundamental Methods of Biostatistics **OR**	3	
STAT 703 - Introduction to Statistical Methods for the Sciences	3	
Language Course	3	
Moral Reasoning Overlay	3	
Total Credits: 16		
Third Year		
Semester 1		
BIOL 263 - Ecology of Environmental Problems **OR**	3	
BIOL 529 - Ecology	3	
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
Arts and Sciences 300-level or above Social Science	3	
Outside Concentration - A&S requirement	3	
Total Credits: 14		
Semester 2		
BIOL 398 - Principles of Genetics	4	
PHYS 113 - General Physics I	4	
Outside Concentration - A&S requirement	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**

Total Credits: 14		
Fourth Year		
Semester 1		
Biology Elective	3	
Biology Elective	3	
BIOL 520 - Evolution **OR**	3	
BIOL 521 - Evolution of Infectious Diseases	3	
Arts and Sciences 300-level or above Humanities course	3	
Outside Concentration - A&S requirement	3	
Total Credits: 15		
Semester 2		
Biology Elective	3	
Arts and Sciences fine arts course	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Free Electives	6	
Total Credits: 15		
Total Program Hours: 120		

Biology - Animal Biology (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		

BIOL 100 - Biology First-Year Orientation **OR**	1	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation		
BIOL 198 - Principles of Biology	4	**KSC 040**
CHM 210 - Chemistry I	4	
Arts and Humanities	3	**KSC 060**
Social and Behavioral Science	3	**KSC 050**
Total Credits: 15		
Semester 2		
BIOL 221 - Organismic Biology	5	
CHM 230 - Chemistry II	4	
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 15		
Second Year		
Semester 1		
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Social and Behavioral Science and Global Perspectives Overlay	3	**KSC 060**
Total Credits: 15		
Semester 2		

BIOL 398 - Principles of Genetics	4	
Biology elective (BIOL 455 General Microbiology recommended)	4	
PHYS 113 - General Physics I	4	
Arts and Humanities and Moral Reasoning Overlay	3	**KSC 060**
Total Credits: 15		
Third Year		
Semester 1		
BIOL 513 - Physiological Adaptations of Animals	4	
PHYS 114 - General Physics II	4	
STAT 225 - Introduction to Statistics (or other statistics option)	3	
Outside concentration - A&S requirement	3	
Free elective	1	
Total Credits: 15		
Semester 2		
BIOCH 521 - General Biochemistry		
BIOL 541 - Cell Biology	3	
Biology elective - course that includes a lab	3	
Fine Arts or Humanities - A&S requirement	3	
Outside concentration - A&S requirement	3	
Total Credits: 15	3	
Fourth Year		
Semester 1		

BIOL 520 - Evolution **OR**	3	
Biology elective	3	
Non - Quantitative Social Science and US Multicultural	3	
Outside concentration - A&S requirement	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits" 15		
Semester 2		
Biology elective	4	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free electives	8	
Total Credits: 15		
Total Programs Hours: 120		

Biology - Cellular and Molecular Biology (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State**
Semester 1		
BIOL 100 - Biology First-Year Orientation **OR**	1	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation		
BIOL 198 - Principles of Biology	4	**KSC 040**
CHM 210 - Chemistry I	4	
Arts and Humanities Requirement	3	**KSC 060**
Social and Behavioral Science Requirement	3	**KSC 050**

Total Credits: 15		
Semester 2		
BIOL 255 - General Microbiology	4	
CHM 230 - Chemistry II	4	
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 14		
Second Year		
Semester 1		
Choose 1 of the following biology courses for cellular and molecular core:		
BIOL 461 - Phage Hunters I	3	
BIOL 676 - Molecular Genetics Laboratory	3	
BIOL 695 - Internship in Biology	1-3	
BIOL 698 - Research in Biology	0-8	
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Arts and Humanities and Moral Reasoning Overlay	3	**KSC 060**
Total Credits: 15		
Semester 2		
BIOL 398 - Principles of Genetics	4	
Biology elective	3	

ENGL 200 - Expository Writing II	3	**KSC 010**
Social and Behavioral Science and Global Perspectives Overlay	3	**KSC 050**
Free elective	1	
Total Credits: 14		
Third Year		
Semester 1		
BIOL 580 - Molecular Biology of Genes and Genomes	3	
PHYS 113 - General Physics I	4	
STAT 225 - Introduction to Statistics (or other Statistics option)	3	
Outside concentration - A&S requirement	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
BIOCH 521 - General Biochemistry	3	
BIOL 541 - Cell Biology	3	
PHYS 114 - General Physics II	4	
Outside concentration - A&S requirement	3	
Fine Arts or Humanities - A&S requirement	3	
Total Credits: 16		
Fourth Year		
Semester 1		
BIOL 520 - Evolution **OR**	3	

BIOL 521 - Evolution of Infectious Diseases	3		
Biology elective - course that includes a lab	3		
Non-Quantitative Social Science and US Multicultural Overlay - A&S requirement	3		
Outside concentration - A&S requirement	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Semester 2			
Biology elective	3		
Biology elective - course that includes a lab	4		
Free electives	8		
Total Credits: 15			
Total Program Hours: 120			

Biology - Computational Biology (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.			
First Year	**Hours**	**K-State Core**	
Semester 1			
BIOL 100 - Biology First-Year Orientation **OR**	1		
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
BIOL 198 - Principles of Biology	4	**KSC 040**	
CHM 210 - Chemistry I	4		
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**	

Total Credits: 16		
Semester 2		
CC 110 - Introduction to Computing	2	
CC 111 - Elements of Computer Programming	1	
CHM 230 - Chemistry II	4	
COMM 106 - Public Speaking I	3	**KSC 020**
Arts and Humanities and Moral Reasoning Overlay	3	**KSC 060**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Second Year		
Semester 1		
BIOL 398 - Principles of Genetics	4	
CC 210 - Fundamental Computer Programming Concepts	4	
CHM 350 - General Organic Chemistry	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
Total Credits: 14		
Semester 2		
Biology Elective	2	
CHM 351 - General Organic Chemistry Laboratory	2	
MATH 312 - Finite Applications of Mathematics	3	
Arts and Humanities	3	**KSC 060**
Social and Behavioral Science and Global Perspectives Overlay	4	**KSC 050**

Total Credits: 15			
Third Year			
Semester 1			
BIOL 520 - Evolution **OR**	3		
BIOL 521 - Evolution of Infectious Diseases	3		
CC 310 - Data Structures and Algorithms I	3		
PHYS 113 - General Physics I	4		
STAT 703 - Introduction to Statistical Methods for the Sciences	3		
Free Elective	1		
Total Credits: 15			
Semester 2			
BIOCH 521 - General Biochemistry	3		
CC 410 - Advanced Programming	4		
PHYS 114 - General Physics II	4		
Fine Arts or Humanities - A&S requirement	3		
Total Credits: 14			
Senior Year			
Semester 1			
CC 535 - Applied Data Science **OR**	3		
CIS 531 - Introduction to Programming Techniques for Data Science and Analytics	3		
Biology Elective	3		
Biology Elective	3		

BIOL, CC, CIS, or STAT course at 400-level or above	3	
Non-Quantitative Social Science and US Multicultural Overlay	3	
Total Credits: 15		
Semester 2		
BIOL 734 - Introduction to Genomics and Bioinformatics	4	
BIOL, CC, CIS, or STAT at 400-level or above	3	
Biology Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Total Program Hours: 120		

Biology - Ecology and Evolutionary Biology (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
BIOL 100 - Biology First-Year Orientation **OR**	1	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation		
BIOL 198 - Principles of Biology	4	**KSC 040**
CHM 210 - Chemistry I	4	
Arts and Humanities and Moral Reasoning Overlay	3	**KSC 060**
Social and Behavioral Science	3	**KSC 050**
Total Credits: 15		

Semester 2		
BIOL 221 - Organismic Biology	5	
CHM 230 - Chemistry II	4	
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 15		
Second Year		
Semester 1		
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Social and Behavioral Science and Global Perspectives Overlay	3	**KSC 050**
Total Credits: 15		
Semester 2		
BIOL 398 - Principles of Genetics	4	
BIOL 529 - Ecology	3	
PHYS 113 - General Physics I	4	
Arts and Humanities	3	**KSC 060**
Total Credits: 14		
Third Year		

Semester 1		
BIOL 520 - Evolution **OR**	3	
BIOL 521 - Evolution of Infectious Diseases	3	
PHYS 114 - General Physics II	4	
Outside concentration - A&S requirement	3	
Fine Arts or Humanities - A&S requirement	3	
STAT 225 - Introduction to Statistics (or other Statistics option)	3	
Total Credits: 16		
Semester 2		
BIOCH 521 - General Biochemistry	3	
Biology elective	2	
Biology elective	3	
Outside concentration - A&S requirement	3	
Free elective	4	
Total Credits: 15		
Fourth Year		
Semester 1		
BIOL 640 - Population Biology	3	
Biology elective	3	
Non-Quantitative Social Science and US Multicultural Overlay - A&S requirement	3	
Outside concentration - A&S requirement	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15	3	

Semester 2		
BIOL 632 - Ecology Laboratory	1	
Biology elective	3	
Biology elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free elective	5	
Total Credits: 15		
Total Program Hours: 120		

Biology - Human Health Biology (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
BIOL 100 - Biology First-Year Orientation **OR**	1	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
BIOL 198 - Principles of Biology	4	**KSC 040**
CHM 210 - Chemistry I	4	
Arts and Humanities and Moral Reasoning Overlay	3	**KSC 060**
Social and Behavioral Science Requirement	3	**KSC 050**
Total Credits: 15		
Semester 2		
BIOL 255 - General Microbiology	4	

CHM 230 - Chemistry II	4	
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 100 - Expository Writing I	3	**KSC 010**
Free elective	1	
Total Credits: 15		
Second Year		
Semester 1		
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Social and Behavioral Science and Global Perspectives Overlay	3	**KSC 050**
Total Credits: 15		
Semester 2		
BIOCH 521 - General Biochemistry	3	
BIOL 398 - Principles of Genetics	4	
PHYS 113 - General Physics I	4	
Arts and Humanities	3	**KSC 060**
Total Credits: 14		
Third Year		
Semester 1		
BIOL 441 - Human Body I	4	

PHYS 114 - General Physics II	4	
Outside concentration - A&S requirement	3	
STAT 225 - Introduction to Statistics (or other Statistics option)	3	
Free elective	1	
Total Credits: 15		
Semester 2		
BIOL 442 - Human Body II	4	
BIOL 541 - Cell Biology	3	
Outside concentration - A&S requirement	3	
Biology elective	3	
Fine Arts or Humanities - A&S requirement	3	
Total Credits: 16		
Fourth Year		
Semester 1		
BIOL 520 - Evolution **OR**	3	
BIOL 521 - Evolution of Infectious Diseases	3	
Biology elective	3	
Non-Quantitative Social Science and US Multicultural Overlay - A&S requirement	3	
Outside concentration - A&S requirement	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		

Biology electives	5	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free electives	7	
Total Credits: 15		
Total Program Hours: 120		

Biology - Integrative Biology (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
BIOL 100 - Biology First-Year Orientation **OR**	1	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
BIOL 198 - Principles of Biology	4	**KSC 040**
CHM 210 - Chemistry I	4	
Arts and Humanities Requirement	3	**KSC 060**
Social and Behavioral Science Requirement	3	**KSC 050**
Total Credits: 15		
Semester 2		
BIOL 221 - Organismic Biology	5	
CHM 230 - Chemistry II	4	
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 15		

Second Year		
Semester 1		
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Social and Behavioral Science Requirement	3	**KSC 050**
Total Credits: 15		
Semester 2		
BIOL 398 - Principles of Genetics	4	
BIOL 529 - Ecology	3	
PHYS 113 - General Physics I	4	
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 14		
Third Year		
Semester 1		
PHYS 114 - General Physics II	4	
Biology Elective	3	
Outside concentration (A&S requirement)	3	
STAT 225 - Introduction to Statistics (or other statistics option)	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		

Semester 2		
BIOCH 521 - General Biochemistry	3	
BIOL 541 - Cell Biology	3	
Biology Elective	3	
Fine Arts or Humanities (A&S requirement)	3	
Outside concentration (A&S requirement)	3	
Total Credits: 15		
Fourth Year		
Semester 1		
BIOL 520 - Evolution **OR**	3	
BIOL 521 - Evolution of Infectious Diseases	3	
Biology Elective	3	
Non-Quantitative Social Science and US Multicultural Overlay (A&S requirement)	3	
Outside concentration (A&S requirement)	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
Biology Elective	6	
Free Electives	9	
Total Credits: 15		
Total Program Hours: 120		

Biology - Plant Biology (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
BIOL 100 - Biology First-Year Orientation **OR**	1	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
BIOL 198 - Principles of Biology	4	**KSC 040**
CHM 210 - Chemistry I	4	
Arts and Humanities Requirement	3	**KSC 060**
Social and Behavioral Science Requirement	3	**KSC 050**
Total Credits: 15		
Semester 2		
BIOL 221 - Organismic Biology	5	
CHM 210 - Chemistry I	4	
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 15		
Second Year		
Semester 1		
BIOL 461 - Phage Hunters I **OR**	3	
BIOL 676 - Molecular Genetics Laboratory **OR**	3	
BIOL 695 - Internship in Biology **OR**	1-3	
BIOL 698 - Research in Biology	0-8	

CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Semester 2		
BIOL 398 - Principles of Genetics	4	
ENGL 200 - Expository Writing II	3	**KSC 010**
STAT 225 - Introduction to Statistics (or other statistics option)	3	
Social and Behavioral Science Requirement	3	**KSC 050**
Free Elective	1	
Total Credits: 14		
Third Year		
Semester 1		
BIOL 500 - Plant Physiology	3	
BIOL 551 - Taxonomy of Flowering Plants	4	
PHYS 113 - General Physics I	4	
Outside concentration - A&S requirement	3	
Free Elective	1	
Total Credits: 15		
Semester 2		
BIOCH 521 - General Biochemistry	3	

BIOL 541 - Cell Biology	3	
PHYS 114 - General Physics II	4	
Outside concentration (A&S requirement)	3	
Fine Arts or Humanities (A&S requirement)	3	
Total Credits: 16		
Fourth Year		
Semester 1		
BIOL 520 - Evolution **OR**	3	
BIOL 521 - Evolution of Infectious Diseases	3	
Biology elective (course that includes a lab)	3	
Non-Quantitative Social Science and US Multicultural Overlay (A&S requirement)	3	
Outside concentration (A&S requirement)	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
Biology Elective	4	
Biology Elective (course that includes a lab)	4	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Electives	4	
Total Credits: 15		
Total Program Hours: 120		

Fisheries, Wildlife, Conservation, and Environmental Biology - Conservation Biology (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
BIOL 100 - Biology First-Year Orientation **OR**	1	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
BIOL 198 - Principles of Biology	4	**KSC 040**
CHM 210 - Chemistry I	4	
Arts & Humanities Requirement - Moral Reasoning Overlay	3	**KSC 060**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Semester 2		
BIOL 221 - Organismic Biology	5	
CHM 230 - Chemistry II	4	
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 15		
Second Year		
Semester 1		
CHM 350 -General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 100 - College Algebra **OR**	3	**KSC 030**

MATH 150 - Plane Trigonometry **OR**	3	**KSC 030**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Social & Behavioral Sciences Requirement - Global Perspectives Overlay	3	**KSC 050**
Free Elective {Institutionally Designated Area}	1	
Total Credits: 15		
Semester 2		
BIOL 333 - Introduction to Fisheries, Wildlife, Conservation and Environmental Biology	3	
PHYS 115 - Descriptive Physics	5	
STAT 240 - Biometrics I	3	
Arts & Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	1	
Total Credits: 15		
Third Year		
Semester 1		
BIOL 398 - Principles of Genetics	4	
BIOL 529 - Ecology	3	
Outside Concentration	3	
Free Elective {Institutionally Designated Area}	2	**KSC 070**
BIOL 542 - Ichthyology **OR**	3	
BIOL 543 - Ornithology **OR**	3	
BIOL 544 - Mammalogy **OR**	3	
BIOL 551 - Taxonomy of Flowering Plants **OR**	4	
BIOL 604 -Biology of the Fungi **OR**	3	

ENTOM 312 - General Entomology	3	
Total Credits: 15		
Semester 2		
FWCEB Elective	3	
STAT 341 - Biometrics II	3	
Fine Arts or Humanities	3	
Outside Concentration	3	
BIOL 542 - Ichthyology **OR**	3	
BIOL 543 - Ornithology **OR**	3	
BIOL 544 - Mammalogy **OR**	3	
BIOL 551 - Taxonomy of Flowering Plants **OR**	4	
BIOL 604 - Biology of the Fungi **OR**	3	
ENTOM 312 - General Entomology	3	
Total Credits: 15		
Fourth Year		
Semester 1		
BIOL 520 - Evolution **OR**	3	
BIOL 521 - Evolution of Infectious Diseases	3	
BIOL 513 -Physiological Adaptations of Animals **OR**	4	
BIOL 500 - Plant Physiology **AND**	3	
BIOL 501 - Plant Physiology Lab	1	
BIOL 542 -Ichthyology **OR**	3	
BIOL 543 - Ornithology **OR**	3	

BIOL 544 -Mammalogy **OR**	3	
BIOL 551 - Taxonomy of Flowering Plants **OR**	4	
BIOL 604 - Biology of the Fungi **OR**	3	
ENTOM 312 - General Entomology	3	
Free Elective {Institutionally Designated Area}	2	
BIOL 640 - Population Biology 3		
Total Credits: 15		
Semester 2		
BIOL 632 - Ecology Laboratory	1	
BIOL 642 - Principles of Conservation Biology	3	
FWCEB Elective	3	
Non-Quantitative Social Science and US Multicultural Overlay	3	
Outside Concentration	3	
Free Elective {Institutionally Designated Area}	2	**KSC 070**
Total Credits: 15		
Total Program Hours: 120		

Fisheries, Wildlife, Conservation, and Environmental Biology - Environmental Biology (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
BIOL 100 - Biology First-Year Orientation **OR**	1	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	

BIOL 198 - Principles of Biology	4	**KSC 040**
CHM 210 - Chemistry I	4	
Arts & Humanities Requirement - Moral Reasoning Overlay	3	**KSC 060**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Semester 2		
BIOL 221 - Organismic Biology	5	
CHM 230 - Chemistry II	4	
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 15		
Second Year		
Semester 1		
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 100 - College Algebra **OR**	3	**KSC 030**
MATH 150 - Plane Trigonometry **OR**	3	**KSC 030**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Social & Behavioral Science Requirement - Global Perspectives Overlay	3	**KSC 050**
Free Elective {Institutionally Designated Area}	1	
Total Credits: 15		

Semester 2		
BIOL 333 - Introduction to Fisheries, Wildlife, Conservation and Environmental Biology	3	
PHYS 115 - Descriptive Physics	5	
STAT 240 - Biometrics I	3	
Arts & Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	1	
Total Credits: 15		
Third Year		
Semester 1		
BIOL 398 - Principles of Genetics	4	
BIOL 529 - Ecology	3	
Choose 1 Environmental Biology Core Course (must include a Lab) - BIOL 435, BIOL 500, BIOL 510, BIOL 515, BIOL 520, BIOL 521, BIOL 640, BIOL 642, BIOL 687, BIOL 734 **AND**	3	
Lab Course - BIOL 501, BIOL 513, BIOL 612, BIOL 682		
Outside Concentration	3	
Free Elective {Institutionally Designated Area}	2	**KSC 070**
Total Credits: 15		
Semester 2		
FWCEB Elective	3	
Choose 1 Environmental Biology Core Course (must include a Lab) - BIOL 435, BIOL 500, BIOL 510, BIOL 515, BIOL 520, BIOL 521, BIOL 640, BIOL 642, BIOL 687, BIOL 734 **AND**	3	
Lab Course - BIOL 501, BIOL 513, BIOL 612, BIOL 682		
Fine Arts or Humanities	3	
Outside Concentration	3	

STAT 341 - Biometrics II	3	
Total Credits: 15		
Fourth Year		
Semester 1		
FWCEB Elective 400-level or above	3	
FWCEB elective 400-level or above - must be BIOL prefix course	3	
FWCEB elective 400-level or above	3	
Choose 1 Environmental Biology Core Course (must include a Lab) - BIOL 435, BIOL 500, BIOL 510, BIOL 515, BIOL 520, BIOL 521, BIOL 640, BIOL 642, BIOL 687, BIOL 734 **AND**	3	
Lab Course - BIOL 501, BIOL 513, BIOL 612, BIOL 682		
Outside Concentration	3	
Total Credits: 15		
Semester 2		
BIOL 632 - Ecology Laboratory	1	
FWCEB Elective 400-level or above	3	
Choose 1 Environmental Biology Core Course (must include a Lab) - BIOL 435, BIOL 500, BIOL 510, BIOL 515, BIOL 520, BIOL 521, BIOL 640, BIOL 642, BIOL 687, BIOL 734 **AND**	3	
Lab Course - BIOL 501, BIOL 513, BIOL 612, BIOL 682		
Non-Quantitative Social Science and US Multicultural Overlay	3	
Free Elective {Institutionally Designated Area}	2	**KSC 070**
Free Elective	3	
Total Credits: 120		
Total Program Hours: 120		

Fisheries, Wildlife, Conservation, and Environmental Biology - Fisheries Ecology and Management (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
BIOL 100 - Biology First-Year Orientation **OR**	1	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
BIOL 198 - Principles of Biology	4	**KSC 040**
CHM 210 - Chemistry I	4	
Arts and Humanities Requirement (Moral Reasoning Overlay)	3	**KSC 060**
Social and Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Semester 2		
BIOL 221 - Organismic Biology	5	
CHM 230 - Chemistry II	4	
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 15		
Second Year		
Semester 1		
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 100 - College Algebra **OR**	3	**KSC 030**

MATH 150 - Plane Trigonometry	3	**KSC 030**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Social and Behavioral Sciences Requirement (Global Perspectives Overlay)	3	**KSC 050**
Free Elective {Institutionally Designated Area}	1	
Total Credits: 15		
Semester 2		
BIOL 333 - Introduction to Fisheries, Wildlife, Conservation and Environmental Biology	3	
PHYS 115 - Descriptive Physics	5	
STAT 240 - Biometrics I	3	
Arts and Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	1	
Total Credits: 15		
Third Year		
Semester 1		
BIOL 398 - Principles of Genetics	4	
BIOL 529 - Ecology	3	
FWCEB Elective	3	
Outside concentration - A&S requirement	3	
Free Elective {Institutionally Designated Area}	2	**KSC 070**
Total Credits: 15		
Semester 2		
BIOL 542 - Ichthyology	3	

BIOL 682 - Fish Ecology	3	
STAT 341 - Biometrics II	3	
Fine Arts or Humanities - A&S requirement	3	
Outside concentration - A&S requirement	3	
Total Credits: 15		
Fourth Year		
Semester 1		
BIOL 513 - Physiological Adaptations of Animals	4	
BIOL 612 - Freshwater Ecology	4	
BIOL 640 - Population Biology	3	
BIOL 696 - Fisheries Management and Techniques	4	
Total Credits: 15		
Semester 2		
BIOL 632 -Ecology Laboratory	1	
FWCEB Elective	3	
Non-Quantitative Social Science (US Multicultural Overlay)	3	
Outside concentration - A&S requirement	3	
Free Elective {Institutionally Designated Area}	2	**KSC 070**
Free Elective	3	
Total Credits: 15		
Total Program Hours: 120		

Fisheries, Wildlife, Conservation, and Environmental Biology - Wildlife Ecology and Management (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
BIOL 100 - Biology First-Year Orientation **OR**	1	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
BIOL 198 - Principles of Biology	4	**KSC 040**
CHM 210 - Chemistry I	4	
Arts and Humanities Requirement (Moral Reasoning Overlay)	3	**KSC 060**
Social and Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Semester 2		
BIOL 221 - Organismic Biology	5	
CHM 230 - Chemistry II	4	
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 15		
Second Year		
Semester 1		
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
MATH 100 - College Algebra **OR**	3	**KSC 030**
MATH 150 - Plane Trigonometry **OR**	3	**KSC 030**

MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Social and Behavioral Sciences Requirement (Global Perspectives Overlay)	3	**KSC 050**
Free Elective {Institutionally Designated Area}	1	
Total Credits: 15		
Semester 2		
BIOL 333 - Introduction to Fisheries, Wildlife, Conservation and Environmental Biology	3	
PHYS 115 -Descriptive Physics	5	
STAT 240 - Biometrics I	3	
Arts and Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	1	
Total Credits: 15		
Third Year		
Semester 1		
BIOL 398 - Principles of Genetics	4	
BIOL 529 - Ecology	3	
BIOL 544 - Mammalogy	3	
Outside concentration - A&S requirement	3	
Free Elective {Institutionally Designated Area}	2	**KSC 070**
Total Credits: 15		
Semester 2		
BIOL 543 - Ornithology	3	
FWCEB elective	3	

STAT 341 -Biometrics II	3	
Fine Arts or Humanities - A&S requirement	3	
Outside concentration - A&S requirement	3	
Total Credits: 15		
Fourth Year		
Semester 1		
BIOL 513 - Physiological Adaptations of Animals	4	
BIOL 551 - Taxonomy of Flowering Plants	4	
BIOL 640 - Population Biology	3	
Outside concentration - A&S requirement	3	
Free Elective {Institutionally Designated Area}	1	
Total Credits: 15		
Semester 2		
BIOL 632 - Ecology Laboratory	1	
BIOL 684 - Wildlife Management and Techniques	4	
ENGL 200 - Expository Writing II	3	**KSC 010**
Non-Quantitative Social Science and US Multicultural Overlay	3	
FWCEB Elective	3	
Free Elective {Institutionally Designated Area}	1	**KSC 070**
Total Credits: 15		
Total Program Hours: 120		

Microbiology - General Microbiology (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
BIOL 100 - Biology First-Year Orientation **OR**	1	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
BIOL 198 - Principles of Biology	4	**KSC 040**
CHM 210 -Chemistry I	4	
Arts and Humanities and Moral Reasoning Overlay	3	**KSC 060**
Social and Behavioral Science	3	**KSC 050**
Total Credits: 15		
Semester 2		
BIOL 255 - General Microbiology	4	
CHM 230 - Chemistry II	4	
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 14		
Second Year		
Semester 1		
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Social and Behavioral Science and Global Perspectives Overlay	4	**KSC 050**

Total Credits: 15	3	
Semester 2		
BIOCH 521 - General Biochemistry	3	
BIOL 398 - Principles of Genetics	4	
PHYS 113 - General Physics I	4	
Arts and Humanities	3	**KSC 060**
Free elective	1	
Total Credits: 15		
Third Year		
Semester 1		
BIOL 541 - Cell Biology	3	
PHYS 114 - General Physics II	4	
STAT 225 or other statistics option	3	
Fine Arts or Humanities - A&S Requirement	3	
Outside concentration - A&S requirement	3	
Total Credits: 16		
Semester 2		
BIOL 687 - Microbial Ecology	3	
Microbiology elective - course with a lab	3	
Outside concentration - A&S requirement	3	
Free elective {Institutionally Designated Area}	3	**KSC 070**
Free elective {Institutionally Designated Area}	3	**KSC 070**

Total Credits: 15			
Fourth Year			
Semester 1			
BIOL 675 - Genetics of Microorganisms	3		
Microbiology elective - course with a lab	3		
Non-Quantitative Social Science and US Multicultural Overlay - A&S requirement	3		
Outside concentration - A&S requirement	3		
Free elective	3		
Total Credits: 15			
Semester 2			
BIOL 520 - Evolution **OR**	3		
BIOL 521 -Evolution of Infectious Diseases	3		
Microbiology elective	2		
Free elective	3		
Free elective	4		
Total Credits: 15			
Total Program Hours: 120			

Microbiology - Medical Microbiology (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.			
First Year	**Hours**	**K-State Core**	
Semester 1			

BIOL 100 - Biology First-Year Orientation **OR**	1	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
BIOL 198 - Principles of Biology	4	**KSC 040**
CHM 210 - Chemistry I	4	
Arts & Humanities Requirement - Moral Reasoning Overlay	3	**KSC 060**
Social & Behavioral Science Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Credit Hours: 15		
Semester 2		
BIOL 255 - General Microbiology	4	
CHM 230 - Chemistry II	4	
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 100 -Expository Writing I	3	**KSC 010**
Credit Hours: 14		
Second Year		
Semester 1		
CHM 350 - General Organic Chemistry	3	
CHM 351 - General Organic Chemistry Laboratory	2	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Social & Behavioral Science - Global Perspectives Overlay	3	**KSC 050**
Credit Hours: 15		

Semester 2		
BIOCH 521 - General Biochemistry	3	
BIOL 398 - Principles of Genetics	4	
PHYS 113 -General Physics I	4	
Arts & Humanities Requirement	3	**KSC 060**
Free Elective	1	
Credit Hours: 15		
Third Year		
Semester 1		
BIOL 541 - Cell Biology	3	
PHYS 114 - General Physics II	4	
STAT 225 or other statistics option	3	
Fine Arts or Humanities	3	
Outside Concentration	3	
Credit Hours: 16		
Semester 2		
BIOL 530 - Pathogenic Microbiology **OR**	3	
BIOL 545 - Human Parasitology **OR**	3	
BIOL 675 - Genetics of Microorganisms **OR**	3	
BIOL 730 - General Virology **OR**	3	
Microbiology Elective - with Lab	3	
Outside Concentration	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**

Free Elective	3		
Credit Hours: 15			
Fourth Year			
Semester 1			
BIOL 530 - Pathogenic Microbiology **OR**	3		
BIOL 545 - Human Parasitology **OR**	3		
BIOL 675 - Genetics of Microorganisms **OR**	3		
BIOL 730 - General Virology	3		
Microbiology Elective - with Lab	3		
Non-Quantitative Social Science and US Multicultural Overlay	3		
Outside Concentration	3		
Free Elective	3		
Credit Hours: 15			
Semester 2			
BIOL 670 - Immunology	3		
Microbiology Elective - with Lab	3		
Microbiology Elective	3		
Free Elective	3		
Free Elective	4		
Credit Hours: 15			
Total Program Hours: 120			

Chemistry

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The Department of Chemistry occupies modern research and teaching facilities in two adjoining buildings: the CBC Building and the H. H. King Chemical Laboratory. The chemistry faculty possess a wide range of expertise in both traditional and cross-disciplinary areas of the chemical sciences, and are committed to excellence in their teaching. The department offers programs leading to the BS and BA degrees in chemistry. In addition to the undergraduate program, the department offers MS and PhD degrees: the graduate program includes approximately 60 students.

Chemistry is a vibrant discipline whose broad impact extends from fundamental inquiry about molecular structure and interaction, to the design and syntheses of new pharmaceuticals, to the creation of new materials for energy conversion, to the detection and remediation of environmental threats. An education in chemistry provides both a satisfying conceptual framework with which to understand the workings of the material world and the practical skills with which to explore it. A degree in chemistry provides many different career possibilities. For example, a research chemist might synthesize and explore new compounds and materials, or develop new analytical instrumentation and techniques. Other chemists work in federal- or state-sponsored activities broadly concerned with health, the environment, forensic science, energy, and safety. Students often use chemistry degrees as preparation for advanced study in medicine, pharmacy, and related areas. Students who plan to become high school science teachers may choose to earn dual degrees in chemistry and education.

High school preparation

High school students who plan to major in chemistry must have a good background in mathematics and science. Trigonometry and two years of algebra are essential, as are courses in chemistry and physics.

Transfer students

Community college students should take a year of general chemistry, two to three semesters of calculus, a year of physics for scientists and engineers (i.e. physics with calculus) English composition, and communication studies (speech) classes for transfer credit.

Independent study and research

Many chemistry students are engaged in independent study and research, some beginning as early as their first year. Two credit hours of research experience, under the supervision of a faculty member of the student's choice, are required for the BS degree in the chemistry program. A formal, written report describing the research is also required.

General requirements for undergraduate majors

Students majoring in chemistry must earn grades of C or better in all courses prescribed for this curriculum, as outlined below. A total of 120 credit hours are required for graduation. The BA program is obtained by following the curriculum for the BS degrees with the additional modern language requirement of the College of Arts and Sciences.

Bachelor of Science

Chemistry (BS)

The BS degree in chemistry consists of two programs: the chemistry program and the chemical science program.

The chemistry program is the preferred program for students who are preparing for graduate study in chemistry or who plan for employment as chemists. This program leads to the professional degree in chemistry and leads to a degree that is certified by the American Chemical Society.

Students majoring in chemistry must earn grades of C or better in all courses prescribed for this curriculum as outlined below. A total of 120 credit hours are required for graduation.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- CHM 200 - Frontiers in Chemistry **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Chemistry**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for CHM**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Chemistry (CHM) Requirements: 39-41 Credit Hours

Choose between Options 1 and 2 for Chemistry Foundational coursework and complete the Chemistry Advanced coursework.

Chemistry (CHM) Foundational Requirements - Option 1: 8 Credit Hours

Credit hours adjusted due to CHM 200 counting as Arts & Sciences College Orientation requirement; CHM 210 fulfilling requirement for K-State Core (Bucket #4)

- CHM 200 - Frontiers in Chemistry **Credits:** 1
- CHM 210 - Chemistry I **Credits:** 4
- CHM 230 - Chemistry II **Credits:** 4
- CHM 371 - Chemical Analysis **Credits:** 4

Chemistry (CHM) Foundational Requirements - Option 2: 5 Credit Hours

Enrollment in CHM 220 and 250 requires one year of high school chemistry, MATH 100 (or two years of high school algebra), and an ACT composite score of 26 or higher

Credit hours adjusted due to CHM 200 counting as Arts & Sciences College Orientation requirement; CHM 220 fulfilling requirement for K-State Core (Bucket #4)

- CHM 200 - Frontiers in Chemistry **Credits:** 1
  CHM 200 is a required foundation course for majors - Fulfills the A&S 1 Credit Hour Orientation requirement
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 250 - Honors Chemistry II **Credits:** 5

Chemistry (CHM) Advanced Requirements: 29 Credit Hours

- CHM 531 - Organic Chemistry I **Credits:** 3
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
- CHM 550 - Organic Chemistry II **Credits:** 3
- CHM 566 - Instrumental Methods of Analysis **Credits:** 3
- CHM 585 - Physical Chemistry I **Credits:** 3
- CHM 595 - Physical Chemistry II **Credits:** 3
- CHM 596 - Physical Methods Laboratory **Credits:** 1-2
  Chemistry majors are required to enroll in 2 credit hours of CHM 596
- CHM 599 - Senior Thesis Research **Credits:** 1-3

Chemistry majors are required to enroll in 2 credit hours of CHM 599

- CHM 611 - Inorganic Chemistry I **Credits:** 3
- CHM 612 - Inorganic Chemistry II **Credits:** 3
  CHM 612 may be replaced by
- CHM 652 - Organic Chemistry III: Reactions and Mechanisms **Credits:** 3
- CHM 657 - Inorganic Techniques **Credits:** 2
  Chemistry majors are required to enroll in 2 credit hours of CHM 657

Biochemistry (BIOCH) Requirements: 3 Credit Hours

- BIOCH 521 - General Biochemistry **Credits:** 3
  Or
- BIOCH 755 - Biochemistry I **Credits:** 3

Mathematics (MATH) Requirements: 12 Credit Hours

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- MATH 222 - Analytic Geometry and Calculus III **Credits:** 4

Physics (PHYS) Requirements: 10 Credit Hours

- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 214 - Engineering Physics II **Credits:** 5

BS Arts, Humanities, and Social Sciences Requirements: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: 0-44

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Chemistry - Chemical Science (BS)

The BS degree in chemistry consists of two programs: the chemistry program and the chemical science program.

The chemical science program serves students who want a strong background in chemistry but who do not require as much specialization as provided by the chemistry program.

Students majoring in chemical science must earn grades of C or better in all courses prescribed for this curriculum as outlined below. A total of 120 credit hours are required for graduation.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- CHM 200 - Frontiers in Chemistry **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Chemistry,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for Chem**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Chemistry (CHM) Requirements: 25-28 credit hours

Choose between Options 1 and 2 for Chemistry Foundational coursework, complete the advanced requirements, and complete an advanced lecture and laboratory.

Chemical Science Foundational Requirements - Option 1: 13 credit hours

- CHM 200 - Frontiers in Chemistry **Credits:** 1
- CHM 210 - Chemistry I **Credits:** 4
- CHM 230 - Chemistry II **Credits:** 4
- CHM 371 - Chemical Analysis **Credits:** 4

Chemical Science Foundational Requirements - Option 2: 11 credit hours

Enrollment in CHM 220 and 250 requires one year of high school chemistry, MATH 100 (or two years of high school algebra), and an ACT composite score of 26 or higher

- CHM 200 - Frontiers in Chemistry **Credits:** 1
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 250 - Honors Chemistry II **Credits:** 5

Chemical Science (CHM) Advanced Requirements: 11 credit hours

Complete all courses listed below.

- CHM 531 - Organic Chemistry I **Credits:** 3
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
- CHM 550 - Organic Chemistry II **Credits:** 3
- CHM 500 - General Physical Chemistry **Credits:** 3
  CHM 500 may be replaced by
- CHM 585 - Physical Chemistry I **Credits:** 3

Chemical Science (CHM) Advanced Lecture and Lab Electives: 4-5 credit hours

Complete one lecture course and one lab course from the following list.

Choose one lecture course:

- CHM 315 - Environmental Science: A Chemistry Perspective **Credits:** 3
- CHM 372 - Forensic Chemistry and Criminalistics **Credits:** 3
- CHM 566 - Instrumental Methods of Analysis **Credits:** 3
- CHM 611 - Inorganic Chemistry I **Credits:** 3

Choose one lab course:

- CHM 316 - Environmental Science: A Chemistry Perspective Laboratory **Credits:** 1

- CHM 551 - Advanced Organic Laboratory **Credits:** 2
- CHM 596 - Physical Methods Laboratory **Credits:** 1-2
  Chemical Science majors may enroll in 1 credit hour of CHM 596
- CHM 657 - Inorganic Techniques **Credits:** 2

Biochemistry (BIOCH) Requirements: 6 credit hours

- BIOCH 521 - General Biochemistry **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3

Mathematics (MATH) Requirements: 8 credit hours

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4

Physics (PHYS) Requirements: 8 credit hours

- PHYS 113 - General Physics I **Credits:** 4
- PHYS 114 - General Physics II **Credits:** 4

BS Arts, Humanities, and Social Sciences Requirements: 6 credit hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses: 3 credit hours

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq: 3 credit hours

Free Electives: 11-12 credit hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Minor

Chemistry Minor

Program requirements

Chemistry courses

- * CHM 350 - General Organic Chemistry **Credits:** 3
- ** CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
- *** CHM 500 - General Physical Chemistry **Credits:** 3

Choose from the following:

- CHM 220 - Honors Chemistry I **Credits:** 5
  and
- CHM 250 - Honors Chemistry II **Credits:** 5

Or

- CHM 210 - Chemistry I **Credits:** 4
  and
- CHM 230 - Chemistry II **Credits:** 4
  and
- CHM 371 - Chemical Analysis **Credits:** 4

Note

*CHM 531 (Organic Chemistry I, 3 credits) may be substituted for CHM 350.

**CHM 532 (Organic Chemistry Lab, 2 credits) may be substituted for CHM 351.

***CHM 585 (Physical Chemistry I, 3 credits) may be substituted for CHM 500.

- CHM 531 - Organic Chemistry I **Credits:** 3
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2
- CHM 585 - Physical Chemistry I **Credits:** 3

A minimum grade of C for all courses in the minor is required.

Total credit hours: (18-20)

Other Program Choices

Chemistry (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
CHM 200 - Frontiers in Chemistry	1	
CHM 210 - Chemistry I **OR**	4	**KSC 040**

CHM 220 - Honors Chemistry I	5	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 12		
Semester 2		
CHM 230 - Chemistry II **OR**	4	
CHM 250 - Honors Chemistry II	5	
MATH 221 - Analytic Geometry and Calculus II	4	
ENGL 200 - Expository Writing II	3	**KSC 010**
Communication Requirement	3	**KSC 020**
Total Credits: 14		
Second Year		
Semester 1		
CHM 531 - Organic Chemistry I	3	
MATH 222 - Analytic Geometry and Calculus III	4	
PHYS 213 - Engineering Physics I	5	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Semester 2		
CHM 550 - Organic Chemistry II	3	
CHM 532 - Organic Chemistry Laboratory	2	
PHYS 214 - Engineering Physics II	5	

Social & Behavioral Sciences Requirement	3	**KSC 050**
A&S Requirements BS Fine Arts or Humanities	3	
Total Credits: 16		
Third Year		
Semester 1		
CHM 585 - Physical Chemistry I	3	
CHM 611 - Inorganic Chemistry I	3	
BIOCH 521 - General Biochemistry	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
A&S Requirements BS Non-Quantitative Social Science	3	
Total Credits: 15		
Semester 2		
CHM 595 - Physical Chemistry II	3	
CHM 612 - Inorganic Chemistry II **OR**	3	
CHM 652 - Organic Chemistry III: Reactions and Mechanisms	3	
CHM 371 - Chemical Analysis (If CHM 210 & CHM 230 completed in First Year) **OR**	4	
Open BS Electives		
Arts & Humanities Requirement	3	**KSC 060**
A&S Requirements BS Outside Concentration	3	
Total Credits: 16		
Fourth Year		
Semester 1		

CHM 566 - Instrumental Methods of Analysis	3	
CHM 657 - Inorganic Techniques (CHM majors are required to enroll in 2 credits)	2	
CHM 599 - Senior Thesis Research (CHM majors are required to enroll in 2 credits)	1-3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
A&S Requirements BS Outside Concentration	3	
Open BS Electives		
Total Credits: 16		
Semester 2		
CHM 596 - Physical Methods Laboratory (CHM majors are required to enroll in 2 credits)	1-2	
A&S Requirements BS Outside Concentration	3	
Open BS Elective		
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Total Program Hours: 120		

Chemistry - Chemical Science (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
CHM 200 - Frontiers in Chemistry	1	
CHM 210 - Chemistry I **OR**	4	**KSC 040**
CHM 220 - Honors Chemistry I	5	

ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Semester 2		
CHM 230 - Chemistry II **OR**	4	
CHM 250 - Honors Chemistry II	5	
MATH 221 - Analytic Geometry and Calculus II	4	
ENGL 200 - Expository Writing II	3	**KSC 010**
Communication Requirement	3	**KSC 020**
Total Credits: 14		
Second Year		
Semester 1		
CHM 531 - Organic Chemistry I (If CHM 210 & CHM 230 completed in First Year)	3	
CHM 371 - Chemical Analysis **OR**	4	
Open BS Electives		
PHYS 113 - General Physics I	4	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 14		
Semester 2		
CHM 550 - Organic Chemistry II	3	
CHM 532 - Organic Chemistry Laboratory	2	

PHYS 114 - General Physics II	4	
Social & Behavioral Sciences Requirement	3	**KSC 050**
A&S Requirements BS Fine Arts or Humanities	3	
Total Credits: 15		
Third Year		
Semester 1		
BIOCH 521 - General Biochemistry	3	
BIOCH 522 - General Biochemistry Laboratory	3	
A&S Requirements BS Non-Quantitative Social Science	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Open BS Electives		
Total Credits: 15		
Semester 2		
CHM 500 - General Physical Chemistry	3	
Arts & Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
A&S Requirements BS Outside Concentration	3	
Open BS Electives		
Total Credits: 15		
Fourth Year		
Semester 1		
CHM 315 - Environmental Science: A Chemistry Perspective **AND**	3	

CHM 316 - Environmental Science: A Chemistry Perspective Laboratory **OR**	1	
CHM 566 - Instrumental Methods of Analysis	3	
A&S Requirements BS Outside Concentration	3	
Open BS Electives		
Total Credits: 16		
Semester 2		
Open BS Electives		
CHM 596 - Physical Methods Laboratory (If CHM was chosen in the Fall. Chemical Science majors may enroll in 1 credit))	1-2	
Total Credits: 16		
Total Program Hours: 120		

Dean of Arts and Sciences

Bachelor of Arts

Humanities (BA)

Humanities is a multidisciplinary major that deals with human thought and culture. Cultural study enables students to understand their own places in existing traditions and contribute positively to the development of new ones. Creativity, imagination, and interpretation are central to humanistic study. The humanities disciplines include American ethnic studies, anthropology, art, art history, communication studies, creative writing, dance, gender, women, and sexuality studies, history, literature, mass communications, modern languages, music, philosophy, and theater.

A student works closely with an interdisciplinary humanities advisor in the College of Arts and Sciences deans' office to develop a plan of study with a thematic emphasis. The student's humanities advisor may encourage him or her to confer with other humanities faculty members who have expertise in the area of the student's interest. (Students who select music as a thematic emphasis must seek additional advising in the music department.)

Students must earn a C or better in all coursework applied to the Humanities Core, Humanities Concentration Area 1, Humanities Concentration Area 2, and Practicum/Applied Learning, including transfer work.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: (1 Credit Hour)

Outside Concentration: (9 Credit Hours)

Outside credential of at least 9 credit hours (May be from any unit, except **Art, Media & Communication, Music, Theatre, and Dance, English, Modern Languages, Philosophy,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix except A**RT, COMM, DANCE, ENGL, HIST, MLANG, ARAB, CHINE, CLSCS, FREN, GRMN, JAPAN, SPAN, PHILO, MUSIC, THTR** (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: ([9] Credit Hours)

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Program

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Humanities Foundational Courses: (9 Credit Hours)

Select 9 hours from below (3 credits from 3 different disciplines)

- ART 106 - Art Appreciation **Credits:** 3
- ART 195 - Survey of Western Art History I **Credits:** 3
- ART 196 - Survey of Western Art History II **Credits:** 3
- ART 197 - Survey of Non-Western Art History **Credits:** 3
- COMM 120 - Introduction to Human Communication **Credits:** 3
- COMM 260 - Introduction to Trial Advocacy **Credits:** 3
- DANCE 205 - Dance as an Art Form **Credits:** 3
- ENGL 185 - Race, Film, and American Stories **Credits:** 3
- ENGL 227 - Video Games as Literature **Credits:** 3
- ENGL 251 - Introduction to Literature **Credits:** 3
- ENGL 280 - Studies in World Literature and Culture **Credits:** 3
- ENGL 287 - Great Books **Credits:** 3
- ENGL 310 - Introduction to Literary Studies **Credits:** 3
- ENGL 315 - Introduction to Popular Culture **Credits:** 3
- ENGL 326 - Introduction to Digital Humanities **Credits:** 3
- HIST 100 - Introduction to History **Credits:** 3
- HIST 101 - Western Civilization I: Ancient Greece to Early Modern Europe **Credits:** 3
- HIST 102 - Western Civilization II: Europe in the Modern World **Credits:** 3
- HIST 111 - World History to 1450 **Credits:** 3
- HIST 112 - World History From 1450 **Credits:** 3
- HIST 151 - History of the United States to 1877 **Credits:** 3
- HIST 152 - History of the United States Since 1877 **Credits:** 3
- MLANG 106 - Legal Terminology: Latin and French for Law Professions **Credits:** 2
- MLANG 120 - Multilingualism in the U.S. **Credits:** 3
- MLANG 301 - Languages and Your Future **Credits:** 1
- MUSIC 100 - Introduction to Music Theory **Credits:** 3
- MUSIC 160 - Experiencing Live Music **Credits:** 2-3
- MUSIC 249 - Introduction to Music of the World **Credits:** 3
- MUSIC 250 - Introduction to Music **Credits:** 3
- PHILO 100 - Introduction to Philosophical Problems **Credits:** 3
- PHILO 105 - Introduction to Critical Thinking **Credits:** 3
- PHILO 110 - Introduction to Formal Logic **Credits:** 3
- PHILO 115 - Introduction to Philosophy of Religion **Credits:** 3
- PHILO 120 - Introduction to Philosophy of Art **Credits:** 3
- PHILO 130 - Introduction to Moral Philosophy **Credits:** 3
- PHILO 135 - Introduction to Social and Political Philosophy **Credits:** 3
- PHILO 140 - Introduction to Philosophy of Mind **Credits:** 3
- PHILO 145 - Historical Introduction to Philosophy **Credits:** 3
- PHILO 150 - Introduction to Philosophy of Feminism **Credits:** 3
- PHILO 160 - Introduction to Philosophy of Law **Credits:** 3
- THTRE 235 - Introduction to the Art of Film **Credits:** 3
- THTRE 263 - Oral Interpretation of Literature **Credits:** 3
- THTRE 270 - Introduction to Theatre **Credits:** 3

Humanities Concentration Area 1: (12 Credit Hours)

12 credits from one of the following disciplines; minimum 9 credits at the 300-level or above; course topics must be humanistic in nature: ARAB, ART, CHINE, CLSCS, COMM, DANCE, ENGL, FREN, GRMN, HIST, JAPAN, MLANG, MUSIC, PHILO, SPAN, THTRE

Humanities Concentration Area 2: (12 Credit Hours)

12 credits from one of the following disciplines AND not duplicated above in Concentration Area 1; minimum 9 credits at the 300-level or above; course topics must be humanistic in nature: ARAB, ART, CHINE, CLSCS, COMM, DANCE, ENGL, FREN, GRMN, HIST, JAPAN, MLANG, MUSIC, PHILO, SPAN, THTRE

Practicum / Applied Learning: (1-3 Credit Hours)

Select one of the following course options

- DAS 400 - Undergraduate Research in Arts and Sciences **Credits:** 0-3
- ENGL 597 - Career Paths in English and the Humanities **Credits:** 1

BA Arts, Humanities, and Social Sciences Restricted Electives: (6 Credit Hours)

3 credit hours in each of the following at any level or above OR at any level with a prerequisite in the same discipline.

Any course or combination of courses in Fine Arts: (3 Credit Hours)

May not duplicate any course taken in the concentration areas above.

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

Any Social course that does NOT have a MATH or STAT prereq

BA Natural and Quantitative Requirement: (6 Credit Hours)

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course: (3 Credit Hours)

Natural Science, or Quantitative, or Social Science with MATH or STAT: (3 Credit Hours)

BA Second Language Requirement: (3-16 Credit Hours)

Choose one of the following:

Option 1: (3-14 Credit Hours)

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: (16 Credit Hours)

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: (3 Credit Hours)

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: (12-27 Credit Hours)

Additional courses so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Integrated Computer Science (BA)

Integrated Computer Science integrates computer science with domain knowledge in some external area of concentration. The degree combines a student-selected concentration from any field of study outside of computer science with computational courses focused on real-world programming skills, electives expanding those skills and providing additional cultural and ethical knowledge, and a capstone project applying those skills to the concentration area. Integrated Computer Science equips students to apply computational thinking and methods in a wide variety of possible careers and to become academic, cultural, and industrial leaders who integrate the breadth and depth of an arts and sciences education with technical expertise in computer science.

Students majoring in Integrated Computer Science must earn grades of C or better in all courses required for the program in the Computational Courses, Computational Course Electives, Integration Electives, and Integrated Computer Science Capstone.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 or other approved A&S orientation

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 100 is required.

KSC-030

- MATH 100 - College Algebra **Credits:** 3

Computational Courses 17 Credit Hours

- CC 110 - Introduction to Computing **Credits:** 2
- CC 111 - Elements of Computer Programming **Credits:** 1
- CC 120 - Web Page Development **Credits:** 3
- CC 210 - Fundamental Computer Programming Concepts **Credits:** 4
- CC 310 - Data Structures and Algorithms I **Credits:** 3
- CC 410 - Advanced Programming **Credits:** 4
  CIS 115 (2cr) and CIS 116 (1cr) can be used in place of CC 110 (2cr) and CC 111 (1cr) respectively. CIS 200 (4cr) can be used in place of CC 210 (4cr)

Computational Electives 12 Credit Hours

Pick 4 courses; 12 credit hours

- CC 510 - Computer Systems Administration **Credits:** 3
- CC 515 - Full Stack Web Development **Credits:** 3
- CC 520 - Database Essentials **Credits:** 3
- CC 535 - Applied Data Science **Credits:** 3
- CC 590 - Special Topics in Applied Computer Science **Credits:** 1-4

Integration Electives 12 Credit Hours

Students must complete four courses from the list of integration areas below, with at least one in each integration area, and at least one Moral Reasoning course being either PHILO 386 or PHILO 492

Integration Areas:

Digital Arts and Humanities

Cultural Impacts of Technology

Moral Reasoning and Professional Ethics

Digital Arts and Humanities

- ART 330 - Digital Techniques in Visual Art **Credits:** 3
- ENGL 326 - Introduction to Digital Humanities **Credits:** 3

Cultural Impacts of Technology

- ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3
- CRIM 550 - Cybercrime, Security, and Society **Credits:** 3
- GWSS 435 - Race/Sex/Science **Credits:** 3
- HIST 320 - History of Technology **Credits:** 3
- HIST 519 - Science and Technology in the United States **Credits:** 3
- PSYCH 625 - Human Factors Psychology **Credits:** 3

Moral Reasoning and Professional Ethics

- PHILO 330 - Moral Philosophy **Credits:** 3
- PHILO 185 - Engineering Ethics **Credits:** 3
- PHILO 386 - Philosophy of Computer Science and Software Engineering **Credits:** 3
- PHILO 492 - Computers and Society **Credits:** 1-2

Concentration 18 Credit Hours

Students must choose a concentration area (not in a computing discpline) with a minimum of 18 credit hours, to be completed in 1 of 3 ways.

Note: If existing credentials (e.g., minor, certificate) for one of the options does not require 18 or more credits hours, a student may satisfy this requirement by completing the credential and enough additional credits to complete at least 18 credits total in the field. If no minor is offered at all in a given field, a student may take 18 credits in that field to satisfy the requirement. Courses counted toward the ICS core cannot count toward the concentration.

Option 1: Minor, Undergraduate Certificate, or Secondary Major

Option 2 Double Major

Option 3: Interdisciplinary Concentration

Take 18 additional credits from the three integration areas or from the list below to complete an interdisciplinary concentration. These credits must include six classes from three different fields, two at the 500 level or above. Courses used for the Integration Electives cannot also count in the Interdisciplinary Concentration.

- ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3
- ANTH 715 - Research Methods in Digital Ethnography **Credits:** 3
- ART 330 - Digital Techniques in Visual Art **Credits:** 3
- ART 331 - Introduction to Digital and Expanded Media **Credits:** 3
- ART 390 - Design for Digital Media I **Credits:** 3
- ART 523 - Digital and Expanded Media Special Topics **Credits:** 3
- ART 575 - Web Art **Credits:** 3
- ART 590 - Design for Digital Media II **Credits:** 3

- ART 623 - Advanced Concepts in Digital and Expanded Media **Credits:** 3
- BIOL 734 - Introduction to Genomics and Bioinformatics **Credits:** 4
- COMM 332 - Communication and Technology **Credits:** 3
- CRIM 550 - Cybercrime, Security, and Society **Credits:** 3
- ECON 605 - Economic Applications of Game Theory and Strategic Behavior **Credits:** 3
- ECON 630 - Introduction to Econometrics **Credits:** 3
- ECON 686 - Economics Forecasting **Credits:** 3
- ENGL 325 - Literature and Technology **Credits:** 3
- ENGL 326 - Introduction to Digital Humanities **Credits:** 3
- ENGL 415 - Written Communication for Engineers **Credits:** 3
- ENGL 430 - The Structure of English **Credits:** 3
- ENGL 455 - Exploring Creativity **Credits:** 3
- ENGL 510 - Introduction to Professional Writing **Credits:** 3
- ENGL 516 - Written Communication for the Sciences **Credits:** 3
- ENGL 695 - Topics in Literature **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- GEOL 360 - Quantitative Methods in Geoscience **Credits:** 3
- GWSS 435 - Race/Sex/Science **Credits:** 3
- HIST 320 - History of Technology **Credits:** 3
- HIST 519 - Science and Technology in the United States **Credits:** 3
- MATH 312 - Finite Applications of Mathematics **Credits:** 3
- MC 316 - Interactive Journalism Design **Credits:** 3
- MC 370 - Social Media Strategy & Management **Credits:** 3
- MC 589 - Issues in Mass Communication **Credits:** 1-3
- MUSIC 734 - Technology of the Electronic Music Studio **Credits:** 2
- MUSIC 735 - Digital Sound Synthesis **Credits:** 2
- PHILO 330 - Moral Philosophy **Credits:** 3
- PHILO 185 - Engineering Ethics **Credits:** 3
- PHILO 386 - Philosophy of Computer Science and Software Engineering **Credits:** 3
- PHILO 492 - Computers and Society **Credits:** 1-2
- PHILO 510 - Symbolic Logic II **Credits:** 3
- PHILO 610 - Special Topics in Logic **Credits:** 3
- PHILO 625 - The Philosophy of Language **Credits:** 3
- PHYS 636 - Physical Measurements Instrumentation **Credits:** 4
- PSYCH 625 - Human Factors Psychology **Credits:** 3
- STAT 510 - Introductory Probability and Statistics I **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

Capstone Project 1 Credit Hour

- DAS 496 - Integrated Computer Science Capstone **Credits:** 1

BA Arts, Humanities, and Social Sciences Requirement: 6 Credit Hours

3 credit hours in each of the following, with at least 6 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

B.A. Humanities requirement met by Moral Reasoning and Professional Ethics - Integration Elective.

Any course or combination of courses in Fine Arts Credits: 3

Requirement could be fulfilled by an Integration Elective.

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

Requirement could be fulfilled by an Integration Elective.

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 5-22 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Social Science (BA)

The Social Science interdisciplinary major focuses primarily on the critical examination of society's institutions—their structures, theoretical foundations, evolution, and interrelationships—and how they affect and are affected by human behavior.

Cutting across a variety of social science disciplines, including American ethnic studies, anthropology, economics, geography, gender, women, and sexuality studies, mass communications, political science, psychology, social transformation studies, and sociology, the major intentionally trades depth of learning for broader scope of inquiry. By offering more latitude in its curriculum design, the program allows students to prepare for a range of pathways, including admission to certain professional programs.

Students are expected to select a thematic emphasis that is bridged by the two concentration areas selected in consultation with their advisor. To best meet individual needs and interests, career goals and the program requirements, close collaboration with the advisor is expected.

Students majoring in Social Science must earn grades of C or better in all courses required for the program in Social Science Foundational Courses, Social Science Concentration Area 1, Social Science Concentration Area 2, Thematic Elective and Social Science Capstone.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: 10 credits

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except ****, etc,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for ****) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Program: 52-65 Credits

Statistics Requirement

If not met through K-State Core requirements, STAT 225 is required.

KSC-030

- STAT 225 - Introduction to Statistics **Credits:** 3

Social Science Foundational Courses: 9 credit hours

Students choose 3 courses (9 credits) from the following list in three different disciplines:

- AMETH 160 - Introduction to American Ethnic Studies **Credits:** 3
- ANTH 200 - Introduction to Cultural Anthropology **Credits:** 3
- ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3
- ANTH 210 - Introduction to Cultural Anthropology, Honors **Credits:** 3
- ANTH 220 - Introduction to Linguistic Anthropology **Credits:** 3
- ANTH 260 - Introduction to Archeology **Credits:** 3
- CRIM 261 - Introduction to Criminology and Criminal Justice **Credits:** 3
- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 111 - Principles of Macroeconomics - Honors **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3
- GEOG 100 - World Geography & Globalization **Credits:** 3
- GEOG 200 - Human Geography **Credits:** 3
- GEOG 201 - Human Geography (Honors) **Credits:** 3
- GWSS 105 - Introduction to Gender, Women, and Sexuality Studies **Credits:** 3
- MC 110 - Mass Communication in Society **Credits:** 3
- MC 120 - Principles of Advertising **Credits:** 3
- MC 160 - Principles of Journalism **Credits:** 3
- MC 180 - Principles of Public Relations **Credits:** 3
- POLSC 110 - Introduction to Political Science **Credits:** 3
- POLSC 111 - Introduction to Political Science, Honors **Credits:** 4
- POLSC 115 - U.S. Politics **Credits:** 3
- POLSC 135 - Introduction to Comparative Politics **Credits:** 3
- POLSC 145 - World Politics **Credits:** 3
- POLSC 155 - Introduction to Political Thought **Credits:** 3
- PSYCH 110 - General Psychology **Credits:** 3
- SOCIO 211 - Introduction to Sociology **Credits:** 3
- SOCWK 100 - Social Work: The Helping Profession **Credits:** 3
- SOCWK 200 - Basic Skills for Working with People **Credits:** 3

Social Science Concentration Area One: 12 Credit Hours

12 credit hours from one Social Science discipline: ADC, AMETH, ANTH, CRIM, ECON, GEOG, GWSS, MC, POLSC, PSYCH, STRAN, SOCWK, SOCIO. 9 credits of the 12 must be at the 300 level or higher. Coursework may not overlap with Concentration Area Two or with Foundational Courses.

STRAN may be combined with AMETH or GWSS, but not both. Students cannot choose both AMETH and GWSS as their two disciplines.

ADC may be combined with SOCWK.

Social Science Concentration Area Two: 12 Credit Hours

12 credit hours from one Social Science discipline: ADC, AMETH, ANTH, CRIM, ECON, GEOG, GWSS, MC, POLSC, PSYCH, STRAN, SOCWK, SOCIO. 9 credits of the 12 must be at the 300 level or higher. Coursework may not overlap with Concentration Area One or with Foundational Courses.

STRAN may be combined with AMETH or GWSS, but not both. Students cannot choose both AMETH and GWSS as their two disciplines.

ADC may be combined with SOCWK.

Thematic Elective: 3 Credit Hours

In consultation with advisor, select a minimum 3 credit hours, at or above the 300 level, enhancing one or both concentration areas through research, applied learning, or other experiential learning opportunities. Other courses may be substituted so long as approval is obtained and elective demonstrably aligns with thematic focus. Must be 300-799.

ADC 300-799

AMETH 300-799

ANTH 300-799

CRIM 300-799

DAS 400

ECON 300-799

GEOG 300-799

GWSS 300-799

MC 300-799

POLSC 300-799

PSYCH 300-799

STRAN 300-799

SOCWK 300-799

SOCIO 300-799

Social Science Capstone: 1 Credit hour

- DAS 498 - Social Sciences Capstone **Credits:** 1

BA Arts and Humanities Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, at any level

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

BA Natural and Quantitative Restricted Electives: 6 Credit Hours

One course in each of the following at any level

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 7-14 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BA are satisfied by the following:

- BS Natural and Quantitative Restricted Electives
- BS Fine Arts and Humanities Restricted Elective (two courses at any level)

- Social Science Concentration Area 1 (at least one course will be at 300 level or above)
- BA Second Language Requirement

Bachelor of Science

Environmental Science (BS)

The Environmental Science degree prepares students for careers with specialization in water resources, earth systems, conservation and sustainability, analytical and geospatial methods, or agroecosystems. Curriculum is designed so students will accomplish the following:

• Develop an understanding of the Earth as an integrated system and an appreciation for how humans and social systems shape our environment.

• Engage in impactful experiential learning opportunities to include undergraduate research and internships as well as laboratory, computer-based, and field methods.

• Add focused depth to their learning to target specific career fields with strong workforce demand and societal need.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (minimum of 5 credit hours not overlapping program)

Orientation: (1 credit hour)

DAS 101 or any other 1 credit orientation course

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: (4-9+ credit hours)

Outside credential of at least 9 credit hours (May be from any unit).

OR

Any 9 credit hours in a single prefix (**except for DAS**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: ([9] credit hours)

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Environmental Science Degree Requirements - 80-82 Credit Hours

The curriculum for this major assumes students enter college prepared to take Calculus.

Fundamental Science and Math: (11 credit hours)

Credit total assumes MATH 205 OR MATH 220 counted as part of the K-State Core 3

- MATH 205 - General Calculus **Credits:** 3
  OR
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- STAT 225 - Introduction to Statistics **Credits:** 3
- CHM 110 - General Chemistry **Credits:** 3
  AND
- CHM 111 - General Chemistry Laboratory **Credits:** 1
  OR
- CHM 210 - Chemistry I **Credits:** 4
- PHYS 101 - The Physical World **Credits:** 3
  AND
- PHYS 103 - The Physical World Laboratory **Credits:** 1
  OR
- PHYS 113 - General Physics I **Credits:** 4

Environmental Foundations: (24 credit hours)

- AGRON 205 - Soils **Credits:** 3
- AGRON 206 - Soils Laboratory **Credits:** 1
- BIOL 198 - Principles of Biology **Credits:** 4
- GEOG 121 - Introductory Physical Geography: Earth Systems Science **Credits:** 3
- GEOG 122 - Introduction to Physical Geography: Earth Systems Science Laboratory **Credits:** 1
- GEOL 100 - Earth in Action **Credits:** 3
  OR
- GEOL 115 - Environmental Geology **Credits:** 3
- GEOL 103 - Geology Laboratory **Credits:** 1

- GEOG 508 - Geographic Information Systems I **Credits:** 4
- ENSCI 101 - Introduction Environmental Sciences **Credits:** 1
- DAS 582 - Natural Resources Environmental Sciences Project **Credits:** 3
  OR
- GENAG 582 - Natural Resources/Environmental Science Project (NRES) **Credits:** 3

Environmental Science Degree Customization Areas

Natural Environmental Systems: (12-14 credit hours)

Students must complete one course from each group: Atmosphere, Biosphere, Geosphere, and Hydrosphere.

Atmosphere (3-4 Credit Hours)

Choose one of the following courses

- AGRON 700 - Agricultural Meteorology **Credits:** 3
- GEOG 235 - Atmospheric Science **Credits:** 4
- GEOG 535 - Global Climatology and Climate Change **Credits:** 4
- GEOL 540 - Geologic Record of Climate Change **Credits:** 3

Biosphere (3 Credit Hours)

- AGRON 645 - Soil Microbiology **Credits:** 3
- BIOL 529 - Ecology **Credits:** 3
- BIOL 687 - Microbial Ecology **Credits:** 3
- GEOG 445 - Biogeography **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3

Geosphere (3 Credit Hours)

Choose one of the following courses

- AGRON 665 - Soil Genesis and Classification **Credits:** 3
- GEOG 440 - Spatial Analysis of Surface Water Hydrology **Credits:** 3
- GEOL 502 - Mineralogy **Credits:** 3

Hydrosphere (3-4 Credit Hours)

Choose one of the following courses

- ATM 558 - Hydrology and Soil Erosion Management **Credits:** 3
- ATM 661 - Watershed Assessment and Management **Credits:** 3
- BIOL 612 - Freshwater Ecology **Credits:** 4
- GEOL 611 - Hydrogeology **Credits:** 3

Individual Experiential Learning: (3 credit hours)

Students must complete 3 credits of an internship OR research course from those listed below.

Research Course Codes

Research may be completed in separate semesters and add up to 3 total credits.

- AGRON 598 - Undergraduate Research in Agronomy **Credits:** 0-18
- BIOL 698 - Research in Biology **Credits:** 0-8
- GENAG 515 - Honors/Scholars Project **Credits:** 0-1
- GEOG 497 - Undergraduate Research in Geography **Credits:** 1-3
- GEOG 709 - Geography Field Research Techniques **Credits:** 2-3
- GEOL 599 - Senior Thesis **Credits:** 1-3
- GEOL 680 - Field Geology **Credits:** 3

Internship Course Codes

- AGRON 405 - Internship in Agronomy **Credits:** 0-3
- BIOL 695 - Internship in Biology **Credits:** 1-3
- ENSCI 410 - Environmental Sciences Internship **Credits:** 3
- GEOG 610 - Geography Internship **Credits:** 1-6

Humans and the Environment: (15 credit hours)

Students are required to take SOCIO 536 and one additional class from the Social Systems list, one class from the Ethics list, and two classes from the Human-Environment Interactions list.

All three A&S overlays may be fulfilled through approved courses in this section. A&S approved overlay list may be found at: College degree requirements, electives and overlays

Social Systems: (6 credit hours)

Students are required to take one additional class from the Social Systems list in addition to SOCIO 536

- SOCIO 536 - Society and Natural Resources **Credits:** 3
  AND one of the follow courses
- AGCOM 712 - Environmental Communication **Credits:** 3
- AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
- ECON 527 - Environmental Economics **Credits:** 3
- GEOG 360 - Sustainability Concepts & Issues **Credits:** 3
- GEOG 370 - Environmental Justice **Credits:** 3
- GEOG 770 - Perception of the Environment **Credits:** 3
- HIST 511 - Environmental History **Credits:** 3
- IDFS 350 - Our Sustainable World **Credits:** 3
- LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
- PMC 635 - Methods of Environmental Interpretation **Credits:** 3
- POLSC 250 - Environmental Political Thought: The Future of Food, Air, Water, and Soil **Credits:** 3

Ethics: (3 credit hours)

- PHILO 295 - Introduction to Environmental Ethics **Credits:** 3
  OR
- PHILO 595 - Environmental Ethics **Credits:** 3

Human-Environment Interactions: (6 credit hours)

Students choose two courses from the list below

- AGRON 335 - Environmental Quality **Credits:** 3
- AGRON 695 - Climate Change and Agriculture **Credits:** 3
- ANTH 310 - Environmental Anthropology: Living with Change in the Anthropocene **Credits:** 3
- BIOL 263 - Ecology of Environmental Problems **Credits:** 3
- BIOL 435 - Environmental Biology **Credits:** 3
- CHM 315 - Environmental Science: A Chemistry Perspective **Credits:** 3
- GEOG 340 - Natural Resources **Credits:** 3
- GEOG 460 - Human Dimensions of Global Change **Credits:** 3
- GEOG 761 - Human Impact on the Environment **Credits:** 3
- GEOL 105 - Oceanography **Credits:** 3
  OR
- GEOL 125 - Natural Disasters **Credits:** 3
- GEOL 305 - Sustainable Earth Resources **Credits:** 3
- PMC 275 - Introduction to Natural Resource Management **Credits:** 3

Specialization: (15 credit hours)

Select 12 credits from one specialization and an additional 3 credits from any of the specialization lists.

These courses may not be counted toward fulfilling any other requirement within the degree other than the ouside concentration.

Agroecosystems Specialization

- AGRON 375 - Nutrient Cycling and Fertilizer Management **Credits:** 3
- AGRON 385 - Soil Analysis and Nutrient Recommendations **Credits:** 2
- AGRON 415 - Soils Judging **Credits:** 0-1
  Repeatable
- AGRON 251 - Range Management **Credits:** 3
- AGRON 635 - Soil and Water Conservation **Credits:** 3
- AGRON 640 - Cropping Systems **Credits:** 3
- AGRON 645 - Soil Microbiology **Credits:** 3
- AGRON 646 - Soil Microbiology Laboratory **Credits:** 1
- AGRON 655 - Site Specific Agriculture **Credits:** 3
- AGRON 665 - Soil Genesis and Classification **Credits:** 3
- AGRON 681 - Range Ecology **Credits:** 3
- AGRON 700 - Agricultural Meteorology **Credits:** 3
- AGRON 746 - Environmental Soil Physics **Credits:** 3
- GEOG 747 - Soil Mapping **Credits:** 3
- HORT 790 - Sustainable Agriculture **Credits:** 2

Analytical and Geospatial Modeling Specialization

- ATM 661 - Watershed Assessment and Management **Credits:** 3
- BAE 669 - Watershed Modeling **Credits:** 3
- GEOG 302 - Cartography and Thematic Mapping **Credits:** 3
- GEOG 602 - Computer Mapping and Geographic Visualization **Credits:** 3
- GEOG 605 - Remote Sensing of the Environment **Credits:** 3
- GEOG 608 - Geographic Information Systems II **Credits:** 3
- GEOG 705 - Thematic Remote Sensing **Credits:** 3
- GEOG 706 - Biophysical Remote Sensing **Credits:** 3
- GEOG 707 - Remote Sensing of Water **Credits:** 3
- GEOG 712 - Internet GIS and Distributed Geographic Information Services **Credits:** 3
- GEOG 728 - Programming for Geographic Analysis **Credits:** 3
- GEOL 560 - Field Methods **Credits:** 3
- GEOL 625 - Introduction to Engineering Geology and Petrophysics **Credits:** 3
- GEOL 640 - Introduction to Geophysics **Credits:** 3
- GEOL 642 - Field Geophysics **Credits:** 3
- GEOL 747 - Introduction to Matlab **Credits:** 3
- GEOL 760 - Geochemical and Biogeochemical Modeling **Credits:** 3

Conservation and Sustainability Specialization

- AGRON 251 - Range Management **Credits:** 3
- AGRON 635 - Soil and Water Conservation **Credits:** 3
- AGRON 681 - Range Ecology **Credits:** 3
- BIOL 221 - Organismic Biology **Credits:** 5
- BIOL 333 - Introduction to Fisheries, Wildlife, Conservation and Environmental Biology **Credits:** 3
- BIOL 435 - Environmental Biology **Credits:** 3
- BIOL 500 - Plant Physiology **Credits:** 3
- BIOL 504 - Plant Ecology **Credits:** 3
- BIOL 513 - Physiological Adaptations of Animals **Credits:** 4
- BIOL 520 - Evolution **Credits:** 3
- BIOL 529 - Ecology **Credits:** 3
- BIOL 542 - Ichthyology **Credits:** 3
- BIOL 543 - Ornithology **Credits:** 3
- BIOL 544 - Mammalogy **Credits:** 3
- BIOL 551 - Taxonomy of Flowering Plants **Credits:** 4
- BIOL 612 - Freshwater Ecology **Credits:** 4
- BIOL 632 - Ecology Laboratory **Credits:** 1
- BIOL 640 - Population Biology **Credits:** 3
- BIOL 642 - Principles of Conservation Biology **Credits:** 3
- BIOL 682 - Fish Ecology **Credits:** 3
- BIOL 684 - Wildlife Management and Techniques **Credits:** 4
- BIOL 687 - Microbial Ecology **Credits:** 3
- BIOL 696 - Fisheries Management and Techniques **Credits:** 4
- GEOG 445 - Biogeography **Credits:** 3

- GEOG 722 - Geographies of International Conservation **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3

Earth Systems Specialization

- AGRON 605 - Soil and Environmental Chemistry **Credits:** 3
- AGRON 665 - Soil Genesis and Classification **Credits:** 3
- GEOG 740 - Fluvial Geomorphology **Credits:** 3
- GEOG 742 - Digital Geomorphology **Credits:** 3
- GEOG 765 - Geography of Natural Hazards **Credits:** 3
- GEOL 305 - Sustainable Earth Resources **Credits:** 3
- GEOL 502 - Mineralogy **Credits:** 3
- GEOL 503 - Petrology **Credits:** 3
- GEOL 520 - Geomorphology **Credits:** 3
- GEOL 530 - Structural Geology **Credits:** 3
- GEOL 540 - Geologic Record of Climate Change **Credits:** 3
- GEOL 605 - Introduction to Aqueous Geochemistry **Credits:** 3
- GEOL 630 - Sedimentology and Stratigraphy **Credits:** 3
- GEOL 631 - Petroleum Geology **Credits:** 3
- GEOL 640 - Introduction to Geophysics **Credits:** 3
- GEOL 642 - Field Geophysics **Credits:** 3
- GEOL 701 - Economic Geology **Credits:** 3

Water Resources Specialization

- AGRON 635 - Soil and Water Conservation **Credits:** 3
- ATM 558 - Hydrology and Soil Erosion Management **Credits:** 3
- ATM 661 - Watershed Assessment and Management **Credits:** 3
- BAE 669 - Watershed Modeling **Credits:** 3
- BIOL 612 - Freshwater Ecology **Credits:** 4
- GEOG 440 - Spatial Analysis of Surface Water Hydrology **Credits:** 3
- GEOG 535 - Global Climatology and Climate Change **Credits:** 4
- GEOG 707 - Remote Sensing of Water **Credits:** 3
- GEOG 725 - Geography of Water Resources **Credits:** 3
- GEOG 740 - Fluvial Geomorphology **Credits:** 3
- GEOG 742 - Digital Geomorphology **Credits:** 3
- GEOL 520 - Geomorphology **Credits:** 3
- GEOL 605 - Introduction to Aqueous Geochemistry **Credits:** 3
- GEOL 611 - Hydrogeology **Credits:** 3
- GEOL 640 - Introduction to Geophysics **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3
- GEOL 711 - Water Resources Geochemistry **Credits:** 3
- GEOL 760 - Geochemical and Biogeochemical Modeling **Credits:** 3

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

Orientation: DAS 101 (listed in Program Requirements: Orientation)

Natural and Quantitative

- Natural Science: BIOL 198 (listed in Environmental Foundations)
- Quantitative: STAT 225 (listed in Fundamental Science and Math)
- Additional at 300+: GEOG 508 (listed in Environmental Foundations)
- Additional w/pre-req or 300+: Will be met with a course from the Specialization

Arts, Humanities, and Social Sciences

- Fine Arts or Humanities: PHILO 295 or 595 (listed in Humans and the Environment: Ethics)
- Social Science at 300+: SOCIO 536 (listed in Humans and the Environment: Social Systems)

Overlays (suggested courses to meet each)

- Ethical Reasoning Overlay: PHILO 295 or 595 (listed in Humans and the Environment: Ethics)
- Global Perspectives Overlay: ANTH 310 (listed in Humans and the Environment: Human-Environment Interactions)
- US Multicultural Overlay: GEOG 370 (listed in Humans and the Environment: Social Systems)

Integrated Computer Science (BS)

Integrated Computer Science integrates computer science with domain knowledge in some external area of concentration. The degree combines a student-selected concentration from any field of study outside of computer science with computational courses focused on real-world programming skills, electives expanding those skills and providing additional cultural and ethical knowledge, and a capstone project applying those skills to the concentration area. Integrated Computer Science equips students to apply computational thinking and methods in a wide variety of possible careers and to become academic, cultural, and industrial leaders who integrate the breadth and depth of an arts and sciences education with technical expertise in computer science.

Students majoring in Integrated Computer Science must earn grades of C or better in all courses required for the program in the Computational Courses, Computational Course Electives, Integration Electives, and Integrated Computer Science Capstone.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 or other approved A&S orientation

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 100 is required.

KSC-030

- MATH 100 - College Algebra **Credits:** 3

Computational Courses: 17 Credit Hours

- CC 110 - Introduction to Computing **Credits:** 2
- CC 111 - Elements of Computer Programming **Credits:** 1
- CC 120 - Web Page Development **Credits:** 3
- CC 210 - Fundamental Computer Programming Concepts **Credits:** 4
- CC 310 - Data Structures and Algorithms I **Credits:** 3
- CC 410 - Advanced Programming **Credits:** 4

  CIS 115 (2cr) and CIS 116 (1cr) can be used in place of CC 110 (2cr) and CC 111 (1cr) respectively. CIS 200 (4cr) can be used in place of CC 210 (4cr)

Computational Electives: 12 Credit Hours

Pick 4 courses, at least 12 credit hours

- CC 510 - Computer Systems Administration **Credits:** 3
- CC 515 - Full Stack Web Development **Credits:** 3
- CC 520 - Database Essentials **Credits:** 3
- CC 535 - Applied Data Science **Credits:** 3
- CC 590 - Special Topics in Applied Computer Science **Credits:** 1-4

Integration Electives: 12 Credit Hours

Students must complete four courses from the list of integration areas below, with at least one in each integration area, and at least one Moral Reasoning course being either PHILO 386 or PHILO 492

Digital Arts & Humanities

- ART 330 - Digital Techniques in Visual Art **Credits:** 3
- ENGL 326 - Introduction to Digital Humanities **Credits:** 3

Cultural Impacts of Technology

- ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3
- CRIM 550 - Cybercrime, Security, and Society **Credits:** 3
- GWSS 435 - Race/Sex/Science **Credits:** 3
- HIST 320 - History of Technology **Credits:** 3
- HIST 519 - Science and Technology in the United States **Credits:** 3
- PSYCH 625 - Human Factors Psychology **Credits:** 3
  Moral Reasoning and Professional Ethics
- PHILO 185 - Engineering Ethics **Credits:** 3
- PHILO 330 - Moral Philosophy **Credits:** 3
- PHILO 386 - Philosophy of Computer Science and Software Engineering **Credits:** 3
- PHILO 492 - Computers and Society **Credits:** 1-2

Concentration: 18 Credit Hours

Students must choose a concentration area (not in a computing discpline) with a minimum of 18 credit hours, to be completed in 1 of 3 ways.

Note: If existing credentials (e.g., minor, certificate) for one of the options does not require 18 or more credits hours, a student may satisfy this requirement by completing the credential and enough additional credits to complete at least 18 credits total in the field. If no minor is offered at all in a given field, a student may take 18 credits in that field to satisfy the requirement. Courses counted toward the ICS core cannot count toward the concentration.

Option 1: Minor, Undergraduate Certificate, or Secondary Minor

Option 2: Double Major

Option 3: Interdisciplinary Concentration

Take 18 additional credits from the three integration areas or from the list below to complete an interdisciplinary concentration. These credits must include six classes from three different fields, two at the 500 level or above. Courses used for the Integration Electives cannot also count in the Interdisciplinary Concentration.

- ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3
- ANTH 715 - Research Methods in Digital Ethnography **Credits:** 3
- ART 330 - Digital Techniques in Visual Art **Credits:** 3
- ART 331 - Introduction to Digital and Expanded Media **Credits:** 3
- ART 390 - Design for Digital Media I **Credits:** 3
- ART 523 - Digital and Expanded Media Special Topics **Credits:** 3
- ART 575 - Web Art **Credits:** 3
- ART 590 - Design for Digital Media II **Credits:** 3
- ART 623 - Advanced Concepts in Digital and Expanded Media **Credits:** 3
- BIOL 734 - Introduction to Genomics and Bioinformatics **Credits:** 4
- COMM 332 - Communication and Technology **Credits:** 3
- CRIM 550 - Cybercrime, Security, and Society **Credits:** 3
- ECON 605 - Economic Applications of Game Theory and Strategic Behavior **Credits:** 3
- ECON 630 - Introduction to Econometrics **Credits:** 3
- ECON 686 - Economics Forecasting **Credits:** 3

- ENGL 325 - Literature and Technology **Credits:** 3
- ENGL 326 - Introduction to Digital Humanities **Credits:** 3
- ENGL 415 - Written Communication for Engineers **Credits:** 3
- ENGL 430 - The Structure of English **Credits:** 3
- ENGL 455 - Exploring Creativity **Credits:** 3
- ENGL 510 - Introduction to Professional Writing **Credits:** 3
- ENGL 516 - Written Communication for the Sciences **Credits:** 3
- ENGL 695 - Topics in Literature **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- GEOL 360 - Quantitative Methods in Geoscience **Credits:** 3
- GWSS 435 - Race/Sex/Science **Credits:** 3
- HIST 320 - History of Technology **Credits:** 3
- HIST 519 - Science and Technology in the United States **Credits:** 3
- MATH 312 - Finite Applications of Mathematics **Credits:** 3
- MC 316 - Interactive Journalism Design **Credits:** 3
- MC 370 - Social Media Strategy & Management **Credits:** 3
- MC 589 - Issues in Mass Communication **Credits:** 1-3
- MUSIC 734 - Technology of the Electronic Music Studio **Credits:** 2
- MUSIC 735 - Digital Sound Synthesis **Credits:** 2
- PHILO 330 - Moral Philosophy **Credits:** 3
- PHILO 185 - Engineering Ethics **Credits:** 3
- PHILO 386 - Philosophy of Computer Science and Software Engineering **Credits:** 3
- PHILO 492 - Computers and Society **Credits:** 1-2
- PHILO 510 - Symbolic Logic II **Credits:** 3
- PHILO 610 - Special Topics in Logic **Credits:** 3
- PHILO 625 - The Philosophy of Language **Credits:** 3
- PHYS 636 - Physical Measurements Instrumentation **Credits:** 4
- PSYCH 625 - Human Factors Psychology **Credits:** 3
- STAT 510 - Introductory Probability and Statistics I **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

Capstone Project: 1 Credit Hour

- DAS 496 - Integrated Computer Science Capstone **Credits:** 1

BS Natural and Quantitative Requirements: 3-5 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Three courses are met by Computational Core

Natural Science course Credits: 3-5

BS Arts, Humanities, and Social Sciences Requirements: 3 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities is met by the Moral Reasoning and Professional Ethics requirement (either PHILO 386 or PHILO 492)

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: 17-19

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

B.S. Quantitative courses met by CC 210, CC 310, and CC 410

B.S. Arts & Humanities met by the Moral Reasoning and Professional Ethics requirement

Medical Laboratory Science (BS)

The Medical Laboratory Science (MLS) curriculum requires 90 credit hours (basic requirements and major requirements) at K-State and the completion of 30 hours (one year) of clinical training at one of two affiliated hospitals in Kansas City: North Kansas City Hospital or Saint Luke's Hospital of Kansas City. Both sites are NAACLS accredited. Admission into the clinical portion of the training is competitive and acceptance is not guaranteed. After completion of all the requirements for the bachelor's degree in MLS, students are eligible to sit for the American Society for Clinical Pathology (ASCP) Board of Certification (BOC), which is the gold standard in certification for MLS professionals.

Students are expected to have a minimum grade point average of 2.5 in both overall coursework and the required science courses. Students majoring in Medical Lab Science must earn grades of C or better in all courses required for the major in the areas of Program Concentration Requirements, including transfer work applied to these areas.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: (1 credit hour)

Outside Concentration: (9 credit hours)

A&S Outside Concentration is fulfilled by 30 credits of medical clinical training listed below

Overlays: ([9] credit hours)

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Major Requirements

Foundational Requirements

Complete the following requirements associated with the primary disciplines for Medical Lab Science:

Math: (3 credit hours)

If not met through K-State Core requirements, MATH 100 is required.

Select one of the following:

- MATH 100 - College Algebra **Credits:** 3
- MATH 150 - Plane Trigonometry **Credits:** 3
- MATH 205 - General Calculus **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Statistics: (3 credit hours)

Select one of the following:

- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 250 - Business and Economic Statistics I **Credits:** 3

Biology: (24 credit hours)

- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 255 - General Microbiology **Credits:** 4
- BIOL 398 - Principles of Genetics **Credits:** 4
- BIOL 670 - Immunology **Credits:** 3

- BIOL 441 - Human Body I **Credits:** 4
  AND
- BIOL 442 - Human Body II **Credits:** 4
  OR
- KIN 360 - Anatomy and Physiology **Credits:** 8

Chemistry

- BIOCH 521 - General Biochemistry **Credits:** 3
- CHM 210 - Chemistry I **Credits:** 4
- CHM 230 - Chemistry II **Credits:** 4
- CHM 350 - General Organic Chemistry **Credits:** 3
  AND
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
  OR
- CHM 531 - Organic Chemistry I **Credits:** 3
  AND
- CHM 532 - Organic Chemistry Laboratory **Credits:** 2

MLS Elective: (3 credit hours)

BIOL 541 preferred

- BIOL 530 - Pathogenic Microbiology **Credits:** 3
- BIOL 541 - Cell Biology **Credits:** 3
- BIOL 545 - Human Parasitology **Credits:** 3
- BIOL 609 - Cellular and Molecular Biology of Human Diseases **Credits:** 3
- BIOL 730 - General Virology **Credits:** 3
- PHYS 113 - General Physics I **Credits:** 4

Clinical Requirements

30 hours from an affiliated MLS hospital training program. Hours are taken as 12 credits during fall/spring and 6 over a summer.

- DAS 501 - Health Science Clinical Training **Credits:** 3-12

BS Arts, Humanities, and Social Sciences Requirements: (6 credit hours)

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses: (3 credit hours)

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq: 3 credit hours)

Free Electives: (0-44 credit hours)

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Social Science (BS)

The Social Science interdisciplinary major focuses primarily on the critical examination of society's institutions—their structures, theoretical foundations, evolution, and interrelationships—and how they affect and are affected by human behavior.

Cutting across a variety of social science disciplines, including American ethnic studies, anthropology, economics, geography, gender, women, and sexuality studies, mass communications, political science, psychology, social transformation studies, and sociology, the major intentionally trades depth of learning for broader scope of inquiry. By offering more latitude in its curriculum design, the program allows students to prepare for a range of pathways, including admission to certain professional programs.

Students are expected to select a thematic emphasis that is bridged by the two concentration areas selected in consultation with their advisor. To best meet individual needs and interests, career goals and the program requirements, close collaboration with the advisor is expected.

Students majoring in Social Science must earn grades of C or better in all courses required for the program in Social Science Foundational Courses, Social Science Concentration Area 1, Social Science Concentration Area 2, Thematic Elective and Social Science Capstone.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except ****, etc**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for ****) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

Statistics Requirement

If not met through K-State Core requirements, STAT 225 is required.

KSC-030

- STAT 225 - Introduction to Statistics **Credits:** 3

Social Science Foundational Courses: 9 Credit Hours

Students choose 3 courses (9 credits) from the following list in three different disciplines:

- AMETH 160 - Introduction to American Ethnic Studies **Credits:** 3
- ANTH 200 - Introduction to Cultural Anthropology **Credits:** 3
- ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3
- ANTH 210 - Introduction to Cultural Anthropology, Honors **Credits:** 3
- ANTH 220 - Introduction to Linguistic Anthropology **Credits:** 3
- ANTH 260 - Introduction to Archeology **Credits:** 3
- CRIM 261 - Introduction to Criminology and Criminal Justice **Credits:** 3
- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 111 - Principles of Macroeconomics - Honors **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3
- GEOG 100 - World Geography & Globalization **Credits:** 3
- GEOG 200 - Human Geography **Credits:** 3
- GWSS 105 - Introduction to Gender, Women, and Sexuality Studies **Credits:** 3
- MC 110 - Mass Communication in Society **Credits:** 3
- MC 120 - Principles of Advertising **Credits:** 3
- MC 160 - Principles of Journalism **Credits:** 3
- MC 180 - Principles of Public Relations **Credits:** 3
- POLSC 110 - Introduction to Political Science **Credits:** 3
- POLSC 111 - Introduction to Political Science, Honors **Credits:** 4
- POLSC 115 - U.S. Politics **Credits:** 3
- POLSC 135 - Introduction to Comparative Politics **Credits:** 3
- POLSC 145 - World Politics **Credits:** 3

- POLSC 155 - Introduction to Political Thought **Credits:** 3
- PSYCH 110 - General Psychology **Credits:** 3
- PSYCH 115 - General Psychology (Honors) **Credits:** 4
- SOCIO 211 - Introduction to Sociology **Credits:** 3
- SOCIO 214 - Introduction to Sociology, Honors **Credits:** 4
- SOCWK 100 - Social Work: The Helping Profession **Credits:** 3
- SOCWK 200 - Basic Skills for Working with People **Credits:** 3

Social Science Concentration Area One: 12 Credit Hours

12 credit hours from one Social Science discipline: ADC, AMETH, ANTH, CRIM, ECON, GEOG, GWSS, MC, POLSC, PSYCH, STRAN, SOCWK, SOCIO. 9 credits of the 12 must be at the 300 level or higher. Coursework may not overlap with Concentration Area Two or with Foundational Courses.

STRAN, AMETH, and/or GWSS may be combined in a single concentration. However, both concentrations may not be from STRAN, AMETH, and/or GWSS.

ADC may be combined with SOCWK. However, both concentrations may not be from ADC and SOCWK.

Social Science Concentration Area Two: 12 Credit Hours

12 credit hours from one Social Science discipline: ADC, AMETH, ANTH, CRIM, ECON, GEOG, GWSS, MC, POLSC, PSYCH, STRAN, SOCWK, SOCIO. 9 credits of the 12 must be at the 300 level or higher. Coursework may not overlap with Concentration Area One or with Foundational Courses.

STRAN may be combined with AMETH and/or GWSS in a single concentration. However, students may not choose AMETH and GWSS as their two concentrations.

ADC may be combined with SOCWK.

Thematic Elective: 3 Credit Hours

In consultation with advisor, select a minimum 3 credit hours, at or above the 300 level, enhancing one or both concentration areas through research, applied learning, or other experiential learning opportunities. Other courses may be substituted so long as approval is obtained and elective demonstrably aligns with thematic focus. Must be 300-799.

ADC 300-799

AMETH 300-799

ANTH 300-799

CRIM 300-799

DAS 400

ECON 300-799

GEOG 300-799

GWSS 300-799

MC 300-799

POLSC 300-799

PSYCH 300-799

STRAN 300-799

SOCWK 300-799

SOCIO 300-799

Social Science Capstone: 1 Credit Hour

- DAS 498 - Social Sciences Capstone **Credits:** 1

BS Natural and Quantitative Restricted Electives: 12-15 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course Credits: 3-5

Quantitative course Credits: 3-4

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

BS Arts or Humanities Restricted Electives: 3 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Free Electives: 20-24 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

- BS Natural and Quantitative Restricted Electives
- BS Fine Arts or Humanities Restricted Elective (1 course at any level)
- Social Science Concentration Area 1 (at least one course will be at 300 level or above)

Secondary Major

Integrated Health Studies Secondary Major

This secondary major provides interdisciplinary, liberal arts training in critical foundational skills and conceptual understanding useful for a career in health. IHS prepares undergraduate students with the coursework, advising, and experiential learning they need for a variety of preprofessional programs or career paths in health-adjacent realms.

The program aims to provide:

Interpersonal skills grounded in humanistic and social scientific understanding of health.

Ethical and scientific reasoning skills necessary for solving complex individual and societal health problems.

Multicultural competence critical for dealing with diverse patient populations in the U.S. and global communitues.

This secondary major provides foundational training in four core areas of reasoning and interpersonal relationships. It requires that students integrate that learning in courses that provide interdisciplinary perspectives on a health topic and a specific health science. The secondary major culminates in a capstone course in which students apply their learning.

With careful selection of courses, this secondary major should be able to be completed in addition to a primary major within 120 hrs, as many of the courses in the secondary major will also satisfy general education requirements.

Orientation Course: 1 credit hour

This component introduces learners to the themes of Integrated Health Studies, provides a foundation on those themes and connections to digitial literacy, establishes the role of reflection in this secondary major, and promotes readiness for the coursework and capstone associated with this program.

- DAS 197 - Introduction to Integrated Health Studies **Credits:** 1

Area Requirements: (12 credit hours)

Note: 3 credits from each of the following, 12 total, at least 6 of which must be at the 300 level or above.

Ethics: (3 credit hours)

- PHILO 130 - Introduction to Moral Philosophy **Credits:** 3
- PHILO 365 - Medical Ethics **Credits:** 3

Scientific and Statistical Reasoning: (3 credit hours)

- PHILO 112 - Causal and Statistical Reasoning **Credits:** 3
- PHILO 125 - Introduction to Philosophy of Science **Credits:** 3
- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3

Communication and Psychological/Social Understanding: (3 credit hours)

- COMM 130 - Interpersonal Communication **Credits:** 3
- COMM 320 - Theories of Human Communication **Credits:** 3

- COMM 465 - Communication and Conflict **Credits:** 3
- COMM 480 - Intercultural Communication **Credits:** 3
- COMM 535 - Communication and Leadership **Credits:** 3
- COMM 537 - Negotiation and Communication **Credits:** 3
- CNRES 300 - Introduction to Conflict Resolution **Credits:** 3
- EDSP 415 - American Sign Language - Beginning **Credits:** 3
- FNDH 311 - Health Promotion and Behavior **Credits:** 3
- KIN 230 - Introduction to Public Health **Credits:** 3
- MC 451 - Health Communication **Credits:** 3
- PSYCH 505 - Introduction to Psychopathology **Credits:** 3
- PSYCH 520 - Life Span Personality Development **Credits:** 3
- SOCWK 200 - Basic Skills for Working with People **Credits:** 3
- SOCWK 315 - Human Behavior in the Social Environment I **Credits:** 3
- SOCIO 541 - Wealth, Power, and Privilege **Credits:** 3
- THTRE 665 - Drama Therapy with Special Populations **Credits:** 3
- THTRE 675 - Drama Therapy with Older Adults **Credits:** 1-3

US Multicultural Awareness: (3 credit hours)

Any course from the A&S US Multicultural Overlay.

Integrative Health Electives: (6 credit hours)

Choose 6 credits from the following. Course taken for fulfilling other requirements for the secondary major cannot be double-counted here.

- AMETH 351 - African American Perspectives **Credits:** 3
- ANTH 315 - Introduction to Medical Anthropology & Global Health **Credits:** 3
- ANTH 710 - Writing Cultures: Ethnographic Methods **Credits:** 3
- ECON 688 - Health Economics **Credits:** 3
- ENGL 392 - Literature and the Body **Credits:** 3
- FNDH 600 - Public Health Nutrition **Credits:** 3
- FNDH 311 - Health Promotion and Behavior **Credits:** 3
- GWSS 435 - Race/Sex/Science **Credits:** 3
- HIST 520 - Death and Dying in History **Credits:** 3
- HIST 534 - Social History of Medicine **Credits:** 3
- KIN 418 - Social Determinants and Diversity in Public Health **Credits:** 3
- KIN 318 - Rural Community Health **Credits:** 3
- MC 451 - Health Communication **Credits:** 3
- MC 750 - Strategic Health Communication **Credits:** 3
- PSYCH 518 - Introduction to Health Psychology **Credits:** 3
- SOCIO 544 - Social Gerontology: An Introduction to the Sociology of Aging **Credits:** 3
- SPAN 531 - Professional Spanish: Health and Human Services **Credits:** 3
- ADC 325 - Professional, Ethical, and Legal Issues in Counseling **Credits:** 3
- ADC 395 - Holistic Recovery and Addiction Services Coordination **Credits:** 3
- ADC 561 - Methods of Individual Counseling **Credits:** 3

- ADC 575 - Addiction and Family **Credits:** 3
- ANTH 383 - Plagues: The Co-Evolutionary History of Humans and Pathogens **Credits:** 3
- ANTH 388 - Topics in Physical Anthropology **Credits:** 3
- ANTH 680 - Forensic Anthropology **Credits:** 4
- ANTH 682 - Human Growth and Development **Credits:** 3
- ANTH 683 - Osteology **Credits:** 4
- BIOL 330 - Public Health Biology **Credits:** 3
- GERON 425 - Introduction to Physical Health & Well-Being of Older Adults **Credits:** 3
- GERON 575 - Introduction to Diversity in the Aging Experience **Credits:** 3
- GERON 630 - Advanced Mental Health and Aging **Credits:** 3
- GERON 730 - Advanced Sexuality and Aging **Credits:** 3
- GWSS 365 - Reproductive Rights and Wrongs **Credits:** 3
- GWSS 375 - Disability Justice and Gender **Credits:** 3
- KIN 387 - Introduction to Integrative Human Pathophysiology **Credits:** 3
- KIN 419 - Health Policy and Administration **Credits:** 3
- PHILO 326 - Philosophy of Science: Evidence, Evolution and Intelligent Design **Credits:** 3
- PHILO 380 - Philosophy and Race **Credits:** 3
- PHILO 565 - Advanced Topics in Medical Ethics **Credits:** 3
- PSYCH 535 - Social Psychology **Credits:** 3
- PSYCH 470 - Principles of Neuroscience **Credits:** 3
- PSYCH 520 - Life Span Personality Development **Credits:** 3
- PSYCH 565 - Occupational Health Psychology **Credits:** 3
- PSYCH 630 - Human Neuropsychology **Credits:** 3
- SOCIO 635 - Sociology of Human Trafficking **Credits:** 3

Health Science: (3 credit hours)

- ASI 218 - Fundamentals of Nutrition **Credits:** 3
- ASI 500 - Genetics **Credits:** 3
- ASI 533 - Physiology of Domestic Animals **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
- BIOL 255 - General Microbiology **Credits:** 4
- BIOL 398 - Principles of Genetics **Credits:** 4
- BIOL 410 - Biology of the Cancer Cell **Credits:** 3
- BIOL 441 - Human Body I **Credits:** 4
- BIOL 442 - Human Body II **Credits:** 4
- BIOL 520 - Evolution **Credits:** 3
- BIOL 545 - Human Parasitology **Credits:** 3
- BIOL 670 - Immunology **Credits:** 3
- FNDH 400 - Human Nutrition **Credits:** 3
- GERON 425 - Introduction to Physical Health & Well-Being of Older Adults **Credits:** 3
- KIN 335 - Physiology of Exercise **Credits:** 4
- KIN 336 - Physiology of Exercise Lab **Credits:** 1
- KIN 360 - Anatomy and Physiology **Credits:** 8
- KIN 657 - Integrative Human Pathophysiology **Credits:** 3

Capstone: (2 credit hours)

Learners complete this secondary major with an integrated learning and reflective capstone to engage with the IHS themes.

- DAS 497 - Integrated Health Studies Capstone **Credits:** 0-2

Total Hours Required: 24

Undergraduate Certificate

African Studies Undergraduate Certificate

The African Studies Certificate is designed to provide students with a knowledge of and appreciation for African history, society and natural environment.

The African Studies Certificate will provide students the opportunity to understand and experience this diverse region through courses that offer knowledge, necessary language skills and first-hand experience in various parts of Africa. The Certificate program will focus on African agriculture, health, environment and cultures.

Students must have a minimum GPA of 2.0 to qualify for the certificate in African Studies. A minimum 18 credit hours of African Studies course work with a grade of C or above for all courses is needed to complete the certificate program.

Required courses

- AFRI 400 - African Study Abroad **Credits:** 1-4
- AFRI 501 - Seminar I **Credits:** 3
- ANTH 509 - Cultures of Africa **Credits:** 3
- SWAH 101 - Swahili I **Credits:** 4
- SWAH 102 - Swahili II **Credits:** 4
  or
- Two semesters of any indigenous African language, French or Portuguese

Recommended course:

Recommended Electives for GE-College of Agriculture

The following lists provides electives accepted for general education and for the African Studies certificate:

- AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
- AGEC 710 - Comparative Food and Agriculture Systems **Credits:** 3
- AGRON 335 - Environmental Quality **Credits:** 3
- HORT 256 - Human Dimensions of Horticulture **Credits:** 3

Recommended Electives for GE-College of Arts and Sciences

- ANTH 210 - Introduction to Cultural Anthropology, Honors **Credits:** 3

- ANTH 720 - Field Methods in Linguistics **Credits:** 3
- BIOL 263 - Ecology of Environmental Problems **Credits:** 3
- BIOL 330 - Public Health Biology **Credits:** 3
- BIOL 697 - Topics in Biology **Credits:** 1-6
  (African Ecology and Conservation)
- ECON 527 - Environmental Economics **Credits:** 3
- ECON 681 - International Trade **Credits:** 3
- ECON 682 - Development Economics **Credits:** 3
- ECON 688 - Health Economics **Credits:** 3
- FREN 721 - Francophone Literature and Culture **Credits:** 3
- GEOG 100 - World Geography & Globalization **Credits:** 3
- GEOG 201 - Human Geography (Honors) **Credits:** 3
- GEOG 121 - Introductory Physical Geography: Earth Systems Science **Credits:** 3
- GEOG 340 - Natural Resources **Credits:** 3
- GEOG 780 - Cultural Geography **Credits:** 3
- GEOL 506 - Environmental Studies **Credits:** 3
- HIST 539 - African-American History **Credits:** 3
- POLSC 145 - World Politics **Credits:** 3
- POLSC 135 - Introduction to Comparative Politics **Credits:** 3
- POLSC 626 - African Politics **Credits:** 3
- POLSC 654 - International Politics of Africa **Credits:** 3
- SOCIO 507 - International Development and Social Change **Credits:** 3
- SOCIO 633 - Gender, Power, and Development **Credits:** 3

Recommended Electives for GE-College of Health and Human Sciences

- IHS 310 - Foundations of Integrative Human Sciences **Credits:** 3
- FNDH 400 - Human Nutrition **Credits:** 3
- FNDH 599 - Topics in Human Nutrition **Credits:** 1-3
- FNDH 600 - Public Health Nutrition **Credits:** 3
- FNDH 702 - Nutrition in Developing Countries **Credits:** 3
- HDFS 110 - Introduction to Human Development **Credits:** 3

Total credit hours: (18)

Other Program Choices

Humanities (BA) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		

ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Humanities Foundation	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Second Language Requirement	4	
Total Credits: 17		
Semester 2		
ENGL 200 - Expository Writing II	3	**KSC 010**
Natural & Physical Sciences Requirement	4	**KSC 040**
Humanities Foundation	3	
Arts & Humanities Requirement	3	**KSC 060**
Second Language Requirement	4	
Total Credits: 17		
Second Year		
Semester 1		
COMM 106 - Public Speaking I	3	**KSC 020**
Humanities Foundation	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Second Language Requirement	3	
Total Credits: 15		
Semester 2		

Arts & Humanities Requirement	3	**KSC 060**	
Social & Behavioral Requirement	3	**KSC 050**	
Humanities	3		
Second Language Requirement	3		
Natural or Quanitative Course	3		
Total Credits: 15			
Third Year			
Semester 1			
Outside Concentration	3		
Humanities - Level 300+	3		
Humanities - Level 300+	3		
Non-Quantitative Social Sciences	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
Outside Concentration	3		
Humanities - Level 300+	3		
Humanities - Any Level	3		
Natural Science or Quantitative or Social Science - With MATH or STAT prereq	3		
Free Elective	3		
Total Credits: 15			
Fourth Year			

Semester 1			
Humanities - Level 300+	3		
Humanities - Level 300+	3		
Outside Concentration	3		
Free Elective	2		
Natural Science or Quantitative course	3		
Total Credits: 14			
Semester 2			
Humanities - Level 300+	0-3		
DAS 400 - Undergraduate Research in Arts and Sciences	3		
Free Elective	3		
Free Elective	3		
Total Credits: 12			
Total Program Hours: 120			

Life Science (BA) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
BIOL 198 - Principles of Biology	4	**KSC 040**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
PSYCH 110 - General Psychology	3		
SOCIO 211 -Introduction to Sociology	3	**KSC 050**	

MATH 100 - College Algebra	3	**KSC 030**
Total Credits: 17		
Semester 2		
CHM 110 - General Chemistry	3	
CHM 111 - General Chemistry Laboratory	1	
ECON 110 - Principles of Macroeconomics	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
SPAN 101 - Spanish I	4	
Total Credits: 14		
Second Year		
Semester 1		
ANTH 315 - Introduction to Medical Anthropology & Global Health	3	
BIOL 255 - General Microbiology	4	
COMM 106 - Public Speaking I	3	**KSC 020**
SPAN 102 - Spanish II	4	
THTRE 665 - Drama Therapy with Special Populations	3	
Total Credits: 17		
Semester 2		
Free Electives **OR**	4	**KSC 070**
Science hours can be added as part of the core unless using other sciences	4	
ART 103 - Jewelry Design and Processes for Non-majors	3	**KSC 060**
BIOL 441 - Human Body I	4	

GWSS 105 - Introduction to Gender, Women, and Sexuality Studies	3	**KSC 050**
SPAN 201 - Spanish III	3	**KSC 060**
Total Credits: 17		
Third Year		
Semester 1		
Outside Concentration	3	
Free Electives	2	**KSC 070**
BIOL 442 - Human Body II	4	
PHILO 365 - Medical Ethics	3	
SPAN 301 - Spanish IV	3	
Total Credits: 15		
Semester 2		
Outside Concentration	3	
ANTH 204 - A General Education Introduction to Cultural Anthropology	3	
ANTH 380 - Introduction to Human Evolution	3	
BIOCH 265 - Introductory Organic and Biochemistry	5	
Total Credits: 14		
Fourth Year		
Semester 1		
Outside Concentration	3	
ANTH 280 - Introduction to Biological Anthropology	4	
BIOL 330 - Public Health Biology	3	

MUSIC 170 - History of Rock and Roll	3		
Total Credits: 13			
Semester 2			
AMETH 160 -Introduction to American Ethnic Studies	3		
ANTH 682 - Human Growth and Development	3		
DAS 400 -Undergraduate Research in Arts and Sciences	0-3		
HIST 534 - Social History of Medicine	3		
PSYCH 520 -Life Span Personality Development	3		
Total Credits: 13			
Total Program Hours: 120			

Social Science (BA) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
STAT 225 - Introduction to Statistics	3	**KSC 030**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Modern Language 1	4		
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
Total Credits: 14			
Semester 2			
ENGL 200 - Expository Writing II	3	**KSC 010**	

Social & Behavorial Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
Modern Language 2	4	
Social Science	3	
Total Credits: 16		
Second Year		
Semester 1		
COMM 106 - Public Speaking I	3	**KSC 020**
Natural & Physical Sciences Requirement	4	**KSC 040**
Arts & Humanities Requirement	3	**KSC 060**
Modern Language 3	3	
Social Science	3	
Total Credits: 16		
Semester 2		
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Modern Language 4	3	
Social Science	3	
Social Science	3	
Natural Science or Quantitative Course	3	
Total Credits: 15		
Third Year		
Semester 1		

Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Social Science	3		
Social Science	3		
Natural Science, Quantitative, or Social Science with MATH or STAT prereq	3		
Fine Arts or Humanities	3		
Total Credits: 15			
Semester 2			
Social Science	3		
Social Science	3		
Fine Arts or Humanities at 300 level and above	3		
Outside Concentration	3		
Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
Social Science	3		
Social Science	3		
Outside Concentration	3		
Elective	3		
Elective	3		
Total Credits: 15			
Semester 2			

Social Science	3		
Thematic Elective	3		
Outside Concentration	3		
Elective	4		
DAS 498 - Social Sciences Capstone	1		
Total Credits: 14			
Total Program Hours: 120			

Social Science (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
STAT 225 - Introduction to Statistics	3	**KSC 030**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Natural Science (Natural & Quantitative Requirement)	3		
Social Science Core 1	3		
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
Total Credits: 16			
Semester 2			
ENGL 200 - Expository Writing II	3	**KSC 010**	
Natural & Physical Sciences Requirement	4	**KSC 040**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Arts & Humanities Requirement	3	**KSC 060**	

Quantitative Course (Natural & Quantitative Requirement)	3	
Total Credits: 16		
Second Year		
Semester 1		
COMM 106 - Public Speaking I	3	**KSC 020**
Arts & Humanities Requirement	3	**KSC 060**
Social Science Core 2	3	
Social Science Area 1	3	
Natural Science (Natural & Quantitative Requirements-300+ level or prequisite in same discipline) **OR**	3	
Social Science	3	
Total Credits: 15		
Semester 2		
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Natural Science (Natural & Quantitative Requirement-300 level or prerequisite in same discipline) **OR**	3	
Social Science	3	
Social Science Core 3	3	
Social Science Area 1	3	
Social Science Area 2	3	
Total Credits: 15		
Third Year		
Semester 1		
Free Elective {Institutionally Designated Area}	3	**KSC 070**

Social Science Area 1	3	
Social Science Area 2	3	
Fine Arts or Humanities	3	
Outside Concentration 1	3	
Total Credits: 15		
Semester 2		
Social Science Area 1	3	
Social Science Area 2	3	
Outside Concentration 2	3	
Elective	3	
Elective	3	
Total Credits: 15		
Fourth Year		
Semester 1		
Social Science Area 2	3	
Outside Concentration 3	3	
Elective	3	
Elective	3	
Elective	3	
Total Credits: 15		
Semester 2		
Thematic Elective	3	

Elective	3		
Elective	3		
Elective	3		
DAS 498 - Social Sciences Capstone	1		
Total Credits: 13			
Total Program Hours: 120			

Economics

Dr. Peri da Silva, Department Head

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Economics studies the decision mechanism applied by individuals, firms, and governments. It relies on the idea that any decision involves costs and benefits, making it suitable for understanding real-life events. Its rigorous method of analysis sprawls through many areas of studies essential to the betterment of the world, including the effects of monetary and fiscal policy, labor and firm regulations, restrictions, or promotion of trade among nations, to name a few.

The flexible and rigorous economic tools and methods have empowered Economics majors to receive job offers from prestigious Federal institutions such as the Federal Deposit Insurance Corporation (FDIC) and the Federal Reserve Bank of Kansas City and prestigious firms such as Ernst and Young. Our graduate students have recently decided to pursue their careers in private consulting by joining PricewaterhouseCoopers and academia with North Carolina State University.

The Department of Economics offers dozens of undergraduate scholarships to promote students' careers and compete for their talents. Our complete graduate program provides competitive funding to attract bright and high-achieving domestic and international graduate students. I invite you to join our successful team and visit us and learn about the opportunities that Economics can generate in your career.

Accelerated undergraduate and graduate programs

Students who begin graduate work after completing the BA or BS degree generally require more than one year to complete work for a master's degree. However, a five-year program leading to a BA or BS in economics at the end of four years and a Master of Arts in economics at the end of five years is available for promising undergraduate students. Participants will enroll in graduate level courses in the senior year. Students who have completed their junior year and have outstanding scholastic records are invited to explore the program.

Each student, in consultation with a faculty advisor, will plan an individualized program of study that meets requirements for the BA or BS and the MA degrees. Features of the program include participation in research as an undergraduate and enrollment in

graduate level courses in the senior year. Students participating in the program will be considered for financial assistance in the form of scholarships, fellowships, research assistantships, and part-time work.

Bachelor of Arts

Economics (BA)

Economics studies the principles guiding the best use of resources. Important topics in economics include production; consumer choice; the distribution of income; and the causes of economic growth, recessions, and inflation.

Many economists analyze data to determine underlying relationships and trends, to predict the consequences of government policy, or to develop forecasts of future activity. Such work involves mathematics or statistics and often deals with current issues.

Students may pursue specialized study in economic theory, money and banking, public finance, labor economics, international trade, economic development, transportation, econometrics, regional economics, industrial organization, and economic systems.

A student majoring in economics may earn either the bachelor of arts or the bachelor of science degree. In earning a B.A. or B.S. degree, students choose between the general option and four different specialized tracks. The general degree is designed for flexibility. It works well for those who want to choose their own area of emphasis or perhaps earn a second major in another field. Many students prefer to specialize in a more narrow area of economics and choose one of the tracks within the major. The tracks are designed to give students the opportunity to develop those skills most relevant to a specific area within economics.

Accelerated undergraduate and graduate programs

Students who begin graduate work after completing the BA or BS degree generally require more than one year to complete work for a master's degree. However, a five-year program leading to a BA or BS in economics at the end of four years and a master of arts in economics at the end of five years is available for promising undergraduate students. Students who have completed their junior year and have outstanding scholastic records (GPA 3.2 or higher) are invited to join the program.

Each student, in consultation with a faculty advisor, will plan an individualized program of study that meets requirements for the BA or BS and the MA degrees. Features of the program include participation in research as an undergraduate and enrollment in graduate level courses in the senior year. Students participating in the program will be considered for financial assistance in the form of scholarships, fellowships, research assistantships, and part-time work.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 or other approved A&S orientation

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Economics,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for **ECON**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Foundation: 15 Credit Hours

- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3
- ECON 510 - Intermediate Macroeconomics **Credits:** 3
- ECON 520 - Intermediate Microeconomics **Credits:** 3
  OR
- ECON 521 - Intermediate Microeconomic Theory **Credits:** 3
- ECON 580 - Senior Seminar in Economics **Credits:** 3

Economics Electives: 15 Credit Hours

ECON 500 - 799, not from ECON 505, ECON 507, ECON 520, ECON 521, or ECON 523

Math and Statistics: 9 credit hours

Chose one introductory course from:

- STAT 225 - Introduction to Statistics **Credits:** 3

- STAT 240 - Biometrics I **Credits:** 3
- STAT 250 - Business and Economic Statistics I **Credits:** 3
- STAT 510 - Introductory Probability and Statistics I **Credits:** 3
- STAT 610 - Introduction to Mathematical Statistics I **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

Choose one advanced course from:

- STAT 351 - Business and Economic Statistics II **Credits:** 3
- STAT 611 - Introduction to Mathematical Statistics II **Credits:** 3
- STAT 705 - Regression and Analysis of Variance **Credits:** 3

Choose one from:

- MATH 205 - General Calculus **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

BA Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 16-28 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Economics - Business Economics (BA)

Economics studies the principles guiding the best use of resources. Important topics in economics include production; consumer choice; the distribution of income; and the causes of economic growth, recessions, and inflation.

Many economists analyze data to determine underlying relationships and trends, to predict the consequences of government policy, or to develop forecasts of future activity. Such work involves mathematics or statistics and often deals with current issues.

Students may pursue specialized study in economic theory, money and banking, public finance, labor economics, international trade, economic development, transportation, econometrics, regional economics, industrial organization, and economic systems.

A student majoring in economics may earn either the bachelor of arts or the bachelor of science degree. In earning a B.A. or B.S. degree, students choose between the general option and four different specialized tracks. The general degree is designed for flexibility. It works well for those who want to choose their own area of emphasis or perhaps earn a second major in another field. Many students prefer to specialize in a more narrow area of economics and choose one of the tracks within the major. The tracks are designed to give students the opportunity to develop those skills most relevant to a specific area within economics.

Accelerated undergraduate and graduate programs

Students who begin graduate work after completing the BA or BS degree generally require more than one year to complete work for a master's degree. However, a five-year program leading to a BA or BS in economics at the end of four years and a master of arts in economics at the end of five years is available for promising undergraduate students. Students who have completed their junior year and have outstanding scholastic records (GPA 3.2 or higher) are invited to join the program.

Each student, in consultation with a faculty advisor, will plan an individualized program of study that meets requirements for the BA or BS and the MA degrees. Features of the program include participation in research as an undergraduate and enrollment in graduate level courses in the senior year. Students participating in the program will be considered for financial assistance in the form of scholarships, fellowships, research assistantships, and part-time work.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 or other approved A&S orientation

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Economics,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for Econ) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Foundation Course: 15 Credit Hours

- ECON 111 - Principles of Macroeconomics - Honors **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3
- ECON 510 - Intermediate Macroeconomics **Credits:** 3
- ECON 520 - Intermediate Microeconomics **Credits:** 3
  Or
- ECON 521 - Intermediate Microeconomic Theory **Credits:** 3
- ECON 580 - Senior Seminar in Economics **Credits:** 3

Economics Electives: 3 Credit Hours

ECON 500 - 799, not from ECON 505, ECON 520, ECON 521, or ECON 523

Economics Electives: 12 Credit Hours

Choose 4 courses:

- ECON 530 - Money and Banking **Credits:** 3
- ECON 540 - Managerial Economics **Credits:** 3
- ECON 605 - Economic Applications of Game Theory and Strategic Behavior **Credits:** 3
- ECON 620 - Labor Economics **Credits:** 3

- ECON 631 - Principles of Transportation **Credits:** 3
- ECON 633 - Public Finance **Credits:** 3
- ECON 640 - Industrial Organization and Public Policy **Credits:** 3
- ECON 681 - International Trade **Credits:** 3
- ECON 684 - International Finance and Open Economy Macroeconomics **Credits:** 3

Additional Requirements: 9 Credit Hours

- ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
- FINAN 450 - Principles of Finance **Credits:** 3

Choose 1 course from:

- ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
- MANGT 220 - Principles of Management **Credits:** 3
- MKTG 250 - Introduction to Marketing **Credits:** 3

Math and Statistics: 9-10 Credit Hours

- MATH 205 - General Calculus **Credits:** 3

OR

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Choose 1 intro course from:

- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 250 - Business and Economic Statistics I **Credits:** 3
- STAT 510 - Introductory Probability and Statistics I **Credits:** 3
- STAT 610 - Introduction to Mathematical Statistics I **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

Choose 1 advanced course from:

- STAT 351 - Business and Economic Statistics II **Credits:** 3
- STAT 611 - Introduction to Mathematical Statistics II **Credits:** 3
- STAT 705 - Regression and Analysis of Variance **Credits:** 3

BA Arts, Humanities, and Social Sciences Requirement: 12 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 5 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Economics - Economic Analyst (BA)

Economics studies the principles guiding the best use of resources. Important topics in economics include production; consumer choice; the distribution of income; and the causes of economic growth, recessions, and inflation.

Many economists analyze data to determine underlying relationships and trends, to predict the consequences of government policy, or to develop forecasts of future activity. Such work involves mathematics or statistics and often deals with current issues.

Students may pursue specialized study in economic theory, money and banking, public finance, labor economics, international trade, economic development, transportation, econometrics, regional economics, industrial organization, and economic systems.

A student majoring in economics may earn either the bachelor of arts or the bachelor of science degree. In earning a B.A. or B.S. degree, students choose between the general option and four different specialized tracks. The general degree is designed for flexibility. It works well for those who want to choose their own area of emphasis or perhaps earn a second major in another field. Many students prefer to specialize in a more narrow area of economics and choose one of the tracks within the major. The tracks are designed to give students the opportunity to develop those skills most relevant to a specific area within economics.

Accelerated undergraduate and graduate programs

Students who begin graduate work after completing the BA or BS degree generally require more than one year to complete work for a master's degree. However, a five-year program leading to a BA or BS in economics at the end of four years and a master of arts in economics at the end of five years is available for promising undergraduate students. Students who have completed their junior year and have outstanding scholastic records (GPA 3.2 or higher) are invited to join the program.

Each student, in consultation with a faculty advisor, will plan an individualized program of study that meets requirements for the BA or BS and the MA degrees. Features of the program include participation in research as an undergraduate and enrollment in graduate level courses in the senior year. Students participating in the program will be considered for financial assistance in the form of scholarships, fellowships, research assistantships, and part-time work.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 or other approved A&S orientation

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Economics,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for Econ) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Foundation Courses: 15 Credit Hours

- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3
- ECON 510 - Intermediate Macroeconomics **Credits:** 3
- ECON 520 - Intermediate Microeconomics **Credits:** 3

OR

- ECON 521 - Intermediate Microeconomic Theory **Credits:** 3
- ECON 580 - Senior Seminar in Economics **Credits:** 3

Economics Electives: 9 Credit Hours

ECON 500 - 799, not from ECON 505, ECON 520, ECON 521, or ECON 523

Econometrics Courses: 6 Credit Hours

- ECON 630 - Introduction to Econometrics **Credits:** 3
- ECON 686 - Economics Forecasting **Credits:** 3

Math and Statistics: 14 Credit Hours

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- STAT 510 - Introductory Probability and Statistics I **Credits:** 3
- STAT 511 - Introductory Probability and Statistics II **Credits:** 3

BA Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 11-23 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Economics - Economic Policy (BA)

Economics studies the principles guiding the best use of resources. Important topics in economics include production; consumer choice; the distribution of income; and the causes of economic growth, recessions, and inflation.

Many economists analyze data to determine underlying relationships and trends, to predict the consequences of government policy, or to develop forecasts of future activity. Such work involves mathematics or statistics and often deals with current issues.

Students may pursue specialized study in economic theory, money and banking, public finance, labor economics, international trade, economic development, transportation, econometrics, regional economics, industrial organization, and economic systems.

A student majoring in economics may earn either the bachelor of arts or the bachelor of science degree. In earning a B.A. or B.S. degree, students choose between the general option and four different specialized tracks. The general degree is designed for flexibility. It works well for those who want to choose their own area of emphasis or perhaps earn a second major in another field. Many students prefer to specialize in a more narrow area of economics and choose one of the tracks within the major. The tracks are designed to give students the opportunity to develop those skills most relevant to a specific area within economics.

Accelerated undergraduate and graduate programs

Students who begin graduate work after completing the BA or BS degree generally require more than one year to complete work for a master's degree. However, a five-year program leading to a BA or BS in economics at the end of four years and a master of arts in economics at the end of five years is available for promising undergraduate students. Students who have completed their junior year and have outstanding scholastic records (GPA 3.2 or higher) are invited to join the program.

Each student, in consultation with a faculty advisor, will plan an individualized program of study that meets requirements for the BA or BS and the MA degrees. Features of the program include participation in research as an undergraduate and enrollment in graduate level courses in the senior year. Students participating in the program will be considered for financial assistance in the form of scholarships, fellowships, research assistantships, and part-time work.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation; 1 Credit Hours

DAS 101 or other approved A&S orientation

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Economics,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for Econ) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Foundation Course: 15 Credit Hours

- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3
- ECON 510 - Intermediate Macroeconomics **Credits:** 3
- ECON 520 - Intermediate Microeconomics **Credits:** 3
  OR
- ECON 521 - Intermediate Microeconomic Theory **Credits:** 3
- ECON 580 - Senior Seminar in Economics **Credits:** 3

Economic Policy Electives I: 6 Credit Hours

Choose 2:

- ECON 620 - Labor Economics **Credits:** 3
- ECON 630 - Introduction to Econometrics **Credits:** 3
- ECON 633 - Public Finance **Credits:** 3

- ECON 640 - Industrial Organization and Public Policy **Credits:** 3

Economic Policy Electives II: 9 Credit Hours

Choose 3:

- ECON 524 - Sports Economics **Credits:** 3
- ECON 527 - Environmental Economics **Credits:** 3
- ECON 530 - Money and Banking **Credits:** 3
- ECON 536 - Comparative Economics **Credits:** 3
- ECON 555 - Urban and Regional Economics **Credits:** 3
- ECON 605 - Economic Applications of Game Theory and Strategic Behavior **Credits:** 3
- ECON 620 - Labor Economics **Credits:** 3
- ECON 630 - Introduction to Econometrics **Credits:** 3
- ECON 631 - Principles of Transportation **Credits:** 3
- ECON 633 - Public Finance **Credits:** 3
- ECON 640 - Industrial Organization and Public Policy **Credits:** 3
- ECON 682 - Development Economics **Credits:** 3
- ECON 688 - Health Economics **Credits:** 3
- ECON 710 - History of Economic Thought **Credits:** 3

Additional Requirements: 3 Credit Hours

- PHILO 110 - Introduction to Formal Logic **Credits:** 3
  OR
- PHILO 130 - Introduction to Moral Philosophy **Credits:** 3
  OR
- POLSC 115 - U.S. Politics **Credits:** 3
  OR
- POLSC 155 - Introduction to Political Thought **Credits:** 3

Math and Statistics: 9 Credit Hours

- MATH 205 - General Calculus **Credits:** 3
  OR
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- STAT 225 - Introduction to Statistics **Credits:** 3

Choose 1 Introductory Course:

- STAT 240 - Biometrics I **Credits:** 3
- STAT 250 - Business and Economic Statistics I **Credits:** 3
- STAT 610 - Introduction to Mathematical Statistics I **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

Choose 1 Advanced Course:

- STAT 351 - Business and Economic Statistics II **Credits:** 3
- STAT 611 - Introduction to Mathematical Statistics II **Credits:** 3
- STAT 705 - Regression and Analysis of Variance **Credits:** 3

BA Arts, Humanities, and Social Sciences Requirement: 12 Credit Hours

3 credit hours in each of the following, with at least 6 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 11 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Economics - Financial Economics (BA)

Economics studies the principles guiding the best use of resources. Important topics in economics include production; consumer choice; the distribution of income; and the causes of economic growth, recessions, and inflation.

Many economists analyze data to determine underlying relationships and trends, to predict the consequences of government policy, or to develop forecasts of future activity. Such work involves mathematics or statistics and often deals with current issues.

Students may pursue specialized study in economic theory, money and banking, public finance, labor economics, international trade, economic development, transportation, econometrics, regional economics, industrial organization, and economic systems.

A student majoring in economics may earn either the bachelor of arts or the bachelor of science degree. In earning a B.A. or B.S. degree, students choose between the general option and four different specialized tracks. The general degree is designed for flexibility. It works well for those who want to choose their own area of emphasis or perhaps earn a second major in another field. Many students prefer to specialize in a more narrow area of economics and choose one of the tracks within the major. The tracks are designed to give students the opportunity to develop those skills most relevant to a specific area within economics.

Accelerated undergraduate and graduate programs

Students who begin graduate work after completing the BA or BS degree generally require more than one year to complete work for a master's degree. However, a five-year program leading to a BA or BS in economics at the end of four years and a master of arts in economics at the end of five years is available for promising undergraduate students. Students who have completed their junior year and have outstanding scholastic records (GPA 3.2 or higher) are invited to join the program.

Each student, in consultation with a faculty advisor, will plan an individualized program of study that meets requirements for the BA or BS and the MA degrees. Features of the program include participation in research as an undergraduate and enrollment in graduate level courses in the senior year. Students participating in the program will be considered for financial assistance in the form of scholarships, fellowships, research assistantships, and part-time work.

Kansas State University Core: 34-36 Credit Hours

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General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 or other approved A&S orientation

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Economics,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for Econ) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Foundation: 15 Credit Hours

- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3
- ECON 510 - Intermediate Macroeconomics **Credits:** 3
- ECON 520 - Intermediate Microeconomics **Credits:** 3
  OR
- ECON 521 - Intermediate Microeconomic Theory **Credits:** 3
- ECON 580 - Senior Seminar in Economics **Credits:** 3

Financial Economics Electives I: 9 Credit Hours

Choose 3 from the below

- ECON 530 - Money and Banking **Credits:** 3
- ECON 630 - Introduction to Econometrics **Credits:** 3
- ECON 684 - International Finance and Open Economy Macroeconomics **Credits:** 3
- ECON 590 - Monetary, Credit, and Fiscal Policies **Credits:** 3
- FINAN 520 - Investments **Credits:** 3

Financial Economics Electives II: 6 Credit Hours

In addition to the first 9 credit hours of electives, students need an additional 6 credit hours of electives of Economics courses, which may come from the above set of electives or the additional courses listed below

Choose 2:

- ECON 530 - Money and Banking **Credits:** 3
- ECON 605 - Economic Applications of Game Theory and Strategic Behavior **Credits:** 3
- ECON 630 - Introduction to Econometrics **Credits:** 3
- ECON 681 - International Trade **Credits:** 3
- ECON 684 - International Finance and Open Economy Macroeconomics **Credits:** 3
- ECON 686 - Economics Forecasting **Credits:** 3
- ECON 590 - Monetary, Credit, and Fiscal Policies **Credits:** 3
- FINAN 520 - Investments **Credits:** 3

Additional Requirements: 6 Credit Hours

- ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
- FINAN 450 - Principles of Finance **Credits:** 3

Math and Statistics: 9 Credit Hours

- MATH 205 - General Calculus **Credits:** 3
  OR
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Choose 1 Introductory Course:

- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 250 - Business and Economic Statistics I **Credits:** 3
- STAT 510 - Introductory Probability and Statistics I **Credits:** 3
- STAT 610 - Introduction to Mathematical Statistics I **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

Choose 1 advanced course:

- STAT 351 - Business and Economic Statistics II **Credits:** 3
- STAT 611 - Introduction to Mathematical Statistics II **Credits:** 3
- STAT 705 - Regression and Analysis of Variance **Credits:** 3

BA Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 8 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Bachelor of Science

Economics (BS)

Economics studies the principles guiding the best use of resources. Important topics in economics include production; consumer choice; the distribution of income; and the causes of economic growth, recessions, and inflation.

Many economists analyze data to determine underlying relationships and trends, to predict the consequences of government policy, or to develop forecasts of future activity. Such work involves mathematics or statistics and often deals with current issues.

Students may pursue specialized study in economic theory, money and banking, public finance, labor economics, international trade, economic development, transportation, econometrics, regional economics, industrial organization, and economic systems.

A student majoring in economics may earn either the bachelor of arts or the bachelor of science degree. In earning a B.A. or B.S. degree, students choose between the general option and four different specialized tracks. The general degree is designed for flexibility. It works well for those who want to choose their own area of emphasis or perhaps earn a second major in another field. Many students prefer to specialize in a more narrow area of economics and choose one of the tracks within the major. The tracks are designed to give students the opportunity to develop those skills most relevant to a specific area within economics.

Accelerated undergraduate and graduate programs

Students who begin graduate work after completing the BA or BS degree generally require more than one year to complete work for a master's degree. However, a five-year program leading to a BA or BS in economics at the end of four years and a master of arts in economics at the end of five years is available for promising undergraduate students. Students who have completed their junior year and have outstanding scholastic records (GPA 3.2 or higher) are invited to join the program.

Each student, in consultation with a faculty advisor, will plan an individualized program of study that meets requirements for the BA or BS and the MA degrees. Features of the program include participation in research as an undergraduate and enrollment in graduate level courses in the senior year. Students participating in the program will be considered for financial assistance in the form of scholarships, fellowships, research assistantships, and part-time work.

Kansas State University Core: 34-36 Credit Hours

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General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Economics**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for Econ**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Foundation: 15 Credit Hours

- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3
- ECON 510 - Intermediate Macroeconomics **Credits:** 3
- ECON 520 - Intermediate Microeconomics **Credits:** 3
  OR
- ECON 521 - Intermediate Microeconomic Theory **Credits:** 3
- ECON 580 - Senior Seminar in Economics **Credits:** 3

Economics Electives: 15 Credit Hours

ECON 500-799. Not from 505, 507, 520, 521, 523.

Math and Statistics: 9 Credit Hours

Choose 1 Introductory Course from:

- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 250 - Business and Economic Statistics I **Credits:** 3
- STAT 510 - Introductory Probability and Statistics I **Credits:** 3
- STAT 610 - Introduction to Mathematical Statistics I **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

Choose 1 Advanced Course from:

- STAT 351 - Business and Economic Statistics II **Credits:** 3
- STAT 611 - Introduction to Mathematical Statistics II **Credits:** 3
- STAT 705 - Regression and Analysis of Variance **Credits:** 3

Choose 1 from:

- MATH 205 - General Calculus **Credits:** 3
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

BS Natural and Quantitative Restricted Electives: 3-5 Credit Hours

One course in Natural Science at any level

Natural Science course Credits: 3-5

BS Arts, Humanities, and Social Sciences Restricted Electives: 3 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Free Electives: 31

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Economics - Business Economics (BS)

Economics studies the principles guiding the best use of resources. Important topics in economics include production; consumer choice; the distribution of income; and the causes of economic growth, recessions, and inflation.

Many economists analyze data to determine underlying relationships and trends, to predict the consequences of government policy, or to develop forecasts of future activity. Such work involves mathematics or statistics and often deals with current issues.

Students may pursue specialized study in economic theory, money and banking, public finance, labor economics, international trade, economic development, transportation, econometrics, regional economics, industrial organization, and economic systems.

A student majoring in economics may earn either the bachelor of arts or the bachelor of science degree. In earning a B.A. or B.S. degree, students choose between the general option and four different specialized tracks. The general degree is designed for flexibility. It works well for those who want to choose their own area of emphasis or perhaps earn a second major in another field. Many students prefer to specialize in a more narrow area of economics and choose one of the tracks within the major. The tracks are designed to give students the opportunity to develop those skills most relevant to a specific area within economics.

Accelerated undergraduate and graduate programs

Students who begin graduate work after completing the BA or BS degree generally require more than one year to complete work for a master's degree. However, a five-year program leading to a BA or BS in economics at the end of four years and a master of arts in economics at the end of five years is available for promising undergraduate students. Students who have completed their junior year and have outstanding scholastic records (GPA 3.2 or higher) are invited to join the program.

Each student, in consultation with a faculty advisor, will plan an individualized program of study that meets requirements for the BA or BS and the MA degrees. Features of the program include participation in research as an undergraduate and enrollment in graduate level courses in the senior year. Students participating in the program will be considered for financial assistance in the form of scholarships, fellowships, research assistantships, and part-time work.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 or other approved A&S orientation

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Economics**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for Econ**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Foundation Courses: 15 Credit Hours

- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3
- ECON 510 - Intermediate Macroeconomics **Credits:** 3
- ECON 520 - Intermediate Microeconomics **Credits:** 3
  OR
- ECON 521 - Intermediate Microeconomic Theory **Credits:** 3
- ECON 580 - Senior Seminar in Economics **Credits:** 3

Economics Electives: 3 Credit Hours

ECON 500-799. Not from 505, 520, 521, 523

Business Economics Electives: 12 Credit Hours

Choose 4:

- ECON 530 - Money and Banking **Credits:** 3
- ECON 540 - Managerial Economics **Credits:** 3
- ECON 605 - Economic Applications of Game Theory and Strategic Behavior **Credits:** 3
- ECON 620 - Labor Economics **Credits:** 3
- ECON 631 - Principles of Transportation **Credits:** 3
- ECON 633 - Public Finance **Credits:** 3
- ECON 640 - Industrial Organization and Public Policy **Credits:** 3
- ECON 681 - International Trade **Credits:** 3
- ECON 684 - International Finance and Open Economy Macroeconomics **Credits:** 3

Additional Requirements: 9 Credit Hours

- ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
- FINAN 450 - Principles of Finance **Credits:** 3

Choose 1:

- ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
- MANGT 220 - Principles of Management **Credits:** 3
- MKTG 250 - Introduction to Marketing **Credits:** 3

Math & Statistics: 9 Credit Hours

- MATH 205 - General Calculus **Credits:** 3

OR

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Choose 1 Intro course from:

- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 250 - Business and Economic Statistics I **Credits:** 3
- STAT 510 - Introductory Probability and Statistics I **Credits:** 3
- STAT 610 - Introduction to Mathematical Statistics I **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

Choose 1 Advanced course from:

- STAT 351 - Business and Economic Statistics II **Credits:** 3
- STAT 611 - Introduction to Mathematical Statistics II **Credits:** 3
- STAT 705 - Regression and Analysis of Variance **Credits:** 3

BS Natural and Quantitative Restricted Elective: 3-5 Credit Hours

One course in Natural Science at any level

Natural Science course Credits: 3-5

BS Arts, Humanities, and Social Sciences Restricted Electives: 3 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Free Electives: 22

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Economics - Economic Analyst (BS)

Economics studies the principles guiding the best use of resources. Important topics in economics include production; consumer choice; the distribution of income; and the causes of economic growth, recessions, and inflation.

Many economists analyze data to determine underlying relationships and trends, to predict the consequences of government policy, or to develop forecasts of future activity. Such work involves mathematics or statistics and often deals with current issues.

Students may pursue specialized study in economic theory, money and banking, public finance, labor economics, international trade, economic development, transportation, econometrics, regional economics, industrial organization, and economic systems.

A student majoring in economics may earn either the bachelor of arts or the bachelor of science degree. In earning a B.A. or B.S. degree, students choose between the general option and four different specialized tracks. The general degree is designed for flexibility. It works well for those who want to choose their own area of emphasis or perhaps earn a second major in another field. Many students prefer to specialize in a more narrow area of economics and choose one of the tracks within the major. The tracks are designed to give students the opportunity to develop those skills most relevant to a specific area within economics.

Accelerated undergraduate and graduate programs

Students who begin graduate work after completing the BA or BS degree generally require more than one year to complete work for a master's degree. However, a five-year program leading to a BA or BS in economics at the end of four years and a master of arts in economics at the end of five years is available for promising undergraduate students. Students who have completed their junior year and have outstanding scholastic records (GPA 3.2 or higher) are invited to join the program.

Each student, in consultation with a faculty advisor, will plan an individualized program of study that meets requirements for the BA or BS and the MA degrees. Features of the program include participation in research as an undergraduate and enrollment in graduate level courses in the senior year. Students participating in the program will be considered for financial assistance in the form of scholarships, fellowships, research assistantships, and part-time work.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 or other approved A&S orientation

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Economics**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for Econ**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Foundation Courses: 15 Credit Hours

- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3
- ECON 510 - Intermediate Macroeconomics **Credits:** 3
- ECON 520 - Intermediate Microeconomics **Credits:** 3
  OR
- ECON 521 - Intermediate Microeconomic Theory **Credits:** 3
- ECON 580 - Senior Seminar in Economics **Credits:** 3

Economics Electives: 9 Credit Hours

ECON 500-799. Not from ECON 505, ECON 520, ECON 521, ECON 523

Econometrics: 6 Credit Hours

- ECON 630 - Introduction to Econometrics **Credits:** 3
- ECON 686 - Economics Forecasting **Credits:** 3

Math & Statistics: 14 credit hours

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- STAT 510 - Introductory Probability and Statistics I **Credits:** 3
- STAT 511 - Introductory Probability and Statistics II **Credits:** 3

BS Natural and Quantitative Restricted Electives: 3-5 Credit Hours

One course in the following, at any level

Natural Science course Credits: 3-5

BS Arts, Humanities, and Social Sciences Restricted Electives: 3 Credit Hours

3 credit hours in the following, at any level

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Free Electives: 32

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Economics - Economic Policy (BS)

Economics studies the principles guiding the best use of resources. Important topics in economics include production; consumer choice; the distribution of income; and the causes of economic growth, recessions, and inflation.

Many economists analyze data to determine underlying relationships and trends, to predict the consequences of government policy, or to develop forecasts of future activity. Such work involves mathematics or statistics and often deals with current issues.

Students may pursue specialized study in economic theory, money and banking, public finance, labor economics, international trade, economic development, transportation, econometrics, regional economics, industrial organization, and economic systems.

A student majoring in economics may earn either the bachelor of arts or the bachelor of science degree. In earning a B.A. or B.S. degree, students choose between the general option and four different specialized tracks. The general degree is designed for flexibility. It works well for those who want to choose their own area of emphasis or perhaps earn a second major in another field. Many students prefer to specialize in a more narrow area of economics and choose one of the tracks within the major. The tracks are designed to give students the opportunity to develop those skills most relevant to a specific area within economics.

Accelerated undergraduate and graduate programs

Students who begin graduate work after completing the BA or BS degree generally require more than one year to complete work for a master's degree. However, a five-year program leading to a BA or BS in economics at the end of four years and a master of arts in economics at the end of five years is available for promising undergraduate students. Students who have completed their junior year and have outstanding scholastic records (GPA 3.2 or higher) are invited to join the program.

Each student, in consultation with a faculty advisor, will plan an individualized program of study that meets requirements for the BA or BS and the MA degrees. Features of the program include participation in research as an undergraduate and enrollment in graduate level courses in the senior year. Students participating in the program will be considered for financial assistance in the form of scholarships, fellowships, research assistantships, and part-time work.

Enter Bachelor of Science Program description here.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 or other approved A&S orientation

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Economics**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for Econ**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Foundation Courses: 15 Credit Hours

- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3
- ECON 510 - Intermediate Macroeconomics **Credits:** 3
- ECON 520 - Intermediate Microeconomics **Credits:** 3
  OR
- ECON 521 - Intermediate Microeconomic Theory **Credits:** 3
- ECON 580 - Senior Seminar in Economics **Credits:** 3

Economic Policy Electives I: 6 Credit Hours

Choose 2:

- ECON 620 - Labor Economics **Credits:** 3
- ECON 630 - Introduction to Econometrics **Credits:** 3
- ECON 633 - Public Finance **Credits:** 3
- ECON 640 - Industrial Organization and Public Policy **Credits:** 3

Economic Policy Electives II: 9 Credit Hours

Choose 3:

- ECON 524 - Sports Economics **Credits:** 3
- ECON 527 - Environmental Economics **Credits:** 3
- ECON 530 - Money and Banking **Credits:** 3
- ECON 536 - Comparative Economics **Credits:** 3
- ECON 555 - Urban and Regional Economics **Credits:** 3
- ECON 605 - Economic Applications of Game Theory and Strategic Behavior **Credits:** 3
- ECON 620 - Labor Economics **Credits:** 3
- ECON 630 - Introduction to Econometrics **Credits:** 3
- ECON 631 - Principles of Transportation **Credits:** 3
- ECON 633 - Public Finance **Credits:** 3
- ECON 640 - Industrial Organization and Public Policy **Credits:** 3
- ECON 682 - Development Economics **Credits:** 3
- ECON 688 - Health Economics **Credits:** 3
- ECON 710 - History of Economic Thought **Credits:** 3

Additional Requirements: 3 Credit Hours

- PHILO 110 - Introduction to Formal Logic **Credits:** 3
  OR
- PHILO 130 - Introduction to Moral Philosophy **Credits:** 3
  OR
- POLSC 115 - U.S. Politics **Credits:** 3
  OR
- POLSC 155 - Introduction to Political Thought **Credits:** 3

Math & Statistics: 9 Credit Hours

- MATH 205 - General Calculus **Credits:** 3
  OR
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
  Choose 1 Intro Course:
- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 250 - Business and Economic Statistics I **Credits:** 3
- STAT 510 - Introductory Probability and Statistics I **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
- STAT 610 - Introduction to Mathematical Statistics I **Credits:** 3
  Choose 1 Advanced Course:
- STAT 351 - Business and Economic Statistics II **Credits:** 3
- STAT 611 - Introduction to Mathematical Statistics II **Credits:** 3
- STAT 705 - Regression and Analysis of Variance **Credits:** 3

BS Natural and Quantitative Restricted Electives: 3-5 Credit Hours

One course in the following, at any level

Natural Science course Credits: 3-5

BS Arts, Humanities, and Social Sciences Restricted Electives: 3 Credit Hours

3 credit hours in the following, at any level

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Free Electives: 28

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Required for Graduation: 120

Economics - Financial Economics (BS)

Economics studies the principles guiding the best use of resources. Important topics in economics include production; consumer choice; the distribution of income; and the causes of economic growth, recessions, and inflation.

Many economists analyze data to determine underlying relationships and trends, to predict the consequences of government policy, or to develop forecasts of future activity. Such work involves mathematics or statistics and often deals with current issues.

Students may pursue specialized study in economic theory, money and banking, public finance, labor economics, international trade, economic development, transportation, econometrics, regional economics, industrial organization, and economic systems.

A student majoring in economics may earn either the bachelor of arts or the bachelor of science degree. In earning a B.A. or B.S. degree, students choose between the general option and four different specialized tracks. The general degree is designed for flexibility. It works well for those who want to choose their own area of emphasis or perhaps earn a second major in another field. Many students prefer to specialize in a more narrow area of economics and choose one of the tracks within the major. The tracks are designed to give students the opportunity to develop those skills most relevant to a specific area within economics.

Accelerated undergraduate and graduate programs

Students who begin graduate work after completing the BA or BS degree generally require more than one year to complete work for a master's degree. However, a five-year program leading to a BA or BS in economics at the end of four years and a master of arts in economics at the end of five years is available for promising undergraduate students. Students who have completed their junior year and have outstanding scholastic records (GPA 3.2 or higher) are invited to join the program.

Each student, in consultation with a faculty advisor, will plan an individualized program of study that meets requirements for the BA or BS and the MA degrees. Features of the program include participation in research as an undergraduate and enrollment in graduate level courses in the senior year. Students participating in the program will be considered for financial assistance in the form of scholarships, fellowships, research assistantships, and part-time work.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 or other approved A&S orientation

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Economics**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for Econ**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Foundation Courses: 15 Credit Hours

- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3
- ECON 510 - Intermediate Macroeconomics **Credits:** 3
- ECON 520 - Intermediate Microeconomics **Credits:** 3
  OR
- ECON 521 - Intermediate Microeconomic Theory **Credits:** 3
- ECON 580 - Senior Seminar in Economics **Credits:** 3

Financial Economics Electives I: 9 Credit Hours

Choose 3:

- ECON 530 - Money and Banking **Credits:** 3
- ECON 630 - Introduction to Econometrics **Credits:** 3
- ECON 684 - International Finance and Open Economy Macroeconomics **Credits:** 3
- ECON 590 - Monetary, Credit, and Fiscal Policies **Credits:** 3
- FINAN 520 - Investments **Credits:** 3

Financial Economics Electives II: 6 Credit Hours

Choose 2:

- ECON 530 - Money and Banking **Credits:** 3
- ECON 605 - Economic Applications of Game Theory and Strategic Behavior **Credits:** 3
- ECON 630 - Introduction to Econometrics **Credits:** 3
- ECON 681 - International Trade **Credits:** 3
- ECON 684 - International Finance and Open Economy Macroeconomics **Credits:** 3

- ECON 686 - Economics Forecasting **Credits:** 3
- ECON 590 - Monetary, Credit, and Fiscal Policies **Credits:** 3
- FINAN 520 - Investments **Credits:** 3

Additional Requirements: 6 Credit Hours

- ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
- FINAN 450 - Principles of Finance **Credits:** 3

Math & Statistics: 9 Credit Hours

- MATH 205 - General Calculus **Credits:** 3
  OR
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
  Choose 1 Intro Course:
- STAT 225 - Introduction to Statistics **Credits:** 3
- STAT 240 - Biometrics I **Credits:** 3
- STAT 250 - Business and Economic Statistics I **Credits:** 3
- STAT 510 - Introductory Probability and Statistics I **Credits:** 3
- STAT 610 - Introduction to Mathematical Statistics I **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
  Choose 1 Advanced Course:
- STAT 351 - Business and Economic Statistics II **Credits:** 3
- STAT 611 - Introduction to Mathematical Statistics II **Credits:** 3
- STAT 705 - Regression and Analysis of Variance **Credits:** 3

BS Natural and Quantitative Restricted Electives: 3-5 Credit Hours

One course in the following, at any level

Natural Science course Credits: 3-5

BS Arts, Humanities, and Social Sciences Restricted Electives: 3 Credit Hours

3 credit hours in the following, at any level

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Free Electives: 25

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

A&S Common Requirements are satisfied by upper level Economics courses, required Math and Statistics Courses, and the BS Restricted Electives in Natural Sciences and Humanties and Fine Arts.

Minor

Economics Minor

Program requirements

- Four economics courses at the 500 level or higher **Credits:** 12
  (ECON 505 may not be used to satisfy this requirement)
- ECON 110 - Principles of Macroeconomics **Credits:** 3
- ECON 120 - Principles of Microeconomics **Credits:** 3

Note

Students must have an overall GPA of 2.0 or higher in courses to satisfy the minor requirements.

Total credit hours: (18)

Other Program Choices

Economics (BA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ECON 110 - Principles of Macroeconomics	3	**KSC 050**
English Requirement	3	**KSC 010**
BA Language	4	**KSC 060**
MATH 205 - General Calculus	3	**KSC 030**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 14		
Semester 2		

ECON 120 - Principles of Microeconomics	3	
English Requirement	3	**KSC 010**
STAT 225 - Introduction to Statistics	3	
Arts and Humanities Requirement	3	**KSC 060**
BA Language	4	
Total Credits: 16		
Second Year		
Semester 1		
ECON 510 - Intermediate Macroeconomics	3	
Outside Concentration	3	
BA Langauge	4	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Natural & Physical Sciences Requirement with Lab	4	**KSC 040**
Total Credits: 17		
Semester 2		
ECON 520 -Intermediate Microeconomics **OR**	3	
ECON 521 - Intermediate Microeconomic Theory	3	
Communication Requirement	3	**KSC 020**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
BA Language	3	
Free Elective	1	
Total Credits: 13		

Third Year		
Semester 1		
MUSIC 173 - Music as Protest and Propaganda in the United States	3	
Upper Level Stats	3	
ECON Elective	3	
ECON Elective	3	
BA Humanities	3	
BA non-quan social science	3	
Total Credits: 18		
Semester 2		
ECON 681 - International Trade	3	
ECON Elective	3	
ECON Elective	3	
US Multicultural Overlay		
Total Credits: 12		
Fourth Year		
Semester 1		
PHILO 135 - Introduction to Social and Political Philosophy	3	
Outside Concentration	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
ECON Elective	3	
Free Elective	3	
Total Credits: 15		

Semester 2		
ECON 580 - Senior Seminar in Economics	3	
Free Elective	3	
Free Elective	3	
Free Elective	3	
Free Elective	3	
Total Credits: 15		
Total Program Hours: 120		

Economics (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ECON 110 - Principles of Macroeconomics	3	**KSC 050**
English Requirement	3	**KSC 010**
Communication Requirement	3	**KSC 020**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
MATH 205 - General Calculus	3	**KSC 030**
Total Credits: 13		
Semester 2		
ECON 120 - Principles of Microeconomics	3	
English Requirement	3	**KSC 010**

Introduction Statistics Course	3	
Natural & Physical Sciences Requirement	4	**KSC 040**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Second Year		
Semester 1		
ECON 510 - Intermediate Macroeconomics %credtis:%		
Outside Concentration	3	
Advanced Statistics	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Semester 2		
ECON 520 - Intermediate Microeconomics **OR**	3	
ECON 521 - Intermediate Microeconomic Theory	3	
Outside Concentration	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
BS Natural Science	3	
Social & Behavioral Requirement	3	**KSC 050**
Free Elective: ECON 401 recommended	1	
Total Credits: 16		
Third Year		

Semester 1			
Outside Concentration	3		
MUSIC 173 - Music as Protest and Propaganda in the United States	3		
Outside Concentration	3		
Econ Elective	3		
Econ Elective	3		
Econ Elective	3		
Total Credits: 15			
Semester 2			
ECON 681 - International Trade	3		
ECON Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
PHILO 135 - Introduction to Social and Political Philosophy	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15	3		

Semester 2		
ECON 580 - Senior Seminar in Economics Senior Seminar in Economics	3	
Free Elective	3	
Free Elective	3	
Free Elective	3	
Free Elective	3	
Total Credits: 15		
Total Program Hours: 120		

Economics - Business Economics (BA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ECON 110 - Principles of Macroeconomics	3	**KSC 050**
MATH 205 - General Calculus	3	**KSC 030**
English Requirement	3	**KSC 010**
BA Language	4	**KSC 060**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 14		
Semester 2		
ECON 120 - Principles of Microeconomics	3	
English Requirement	3	**KSC 010**

Intro to Stats	3	
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Second Year		
Semester 1		
ECON 510 - Intermediate Macroeconomics	3	
Outside Concentration	3	
BA Language	4	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Natural and Physical Sciences Requirement	4	**KSC 040**
Total Credits: 17		
Semester 2		
ECON 520 - Intermediate Microeconomics **OR**	3	
ECON 521 - Intermediate Microeconomic Theory	3	
Communications Requirement	3	**KSC 020**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
BA Language	3	
Free Elective	1	
Total Credits: 13		
Third Year		
Semester 1		
ACCTG 231 - Introduction to Managerial Accounting	3	

STAT 351 - Business and Economic Statistics II **OR**	3	
STAT 611 - Introduction to Mathematical Statistics II **OR**	3	
STAT 705 - Regression and Analysis of Variance	3	
ECON Elective; 530, 540, 605, 620, 631, 633, 640, 681, or 684	3	
BA Humanities	3	
BA Fine Arts	3	
ECON 681 - International Trade	3	
Total Credits: 18		
Semester 2		
FINAN 450 - Principles of Finance	3	
MANGT 220 - Principles of Management **OR**	3	
ACCTG 241 - Introduction to Financial Accounting **OR**	3	
MKTG 250 - Introduction to Marketing	3	
ECON Elective; 530, 540, 605, 620, 631, 633, 640, 681, or 684	3	
ECON Elective; 530, 540, 605, 620, 631, 633, 640, 681, or 684	3	
Global Perspective Overlay	3	
Total Credits: 15		
Fourth Year		
Semester 1		
MUSIC 173 - Music as Protest and Propaganda in the United States	3	
ECON Elective	3	
Outside Concentration	3	
Social & Behavioral Science Requirement	3	**KSC 050**

Free Elective	3	
Total Credits: 15		
Semester 2		
ECON 580 - Senior Seminar in Economics	3	
BA non-quan social science	3	
Free Elective	3	
Free Elective	3	
Total Credits: 12		
Total Program Hours: 120		

Economics - Business Economics (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ECON 110 - Principles of Macroeconomics	3	**KSC 050**
MATH 205 - General Calculus	3	**KSC 030**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
English Requirement	3	**KSC 010**
Communication Requirement	3	**KSC 020**
Total Credits: 13		
Semester 2		
ECON 120 - Principles of Microeconomics	3	

Intro Level Stats	3	
Natural and Physical Sciences Requirement	4	**KSC 040**
Arts and Humanities Requirement	3	**KSC 060**
English Requirement	3	**KSC 010**
Total Credits: 16		
Second Year		
Semester 1		
ECON 510 - Intermediate Macroeconomics	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Upper Level Stats	3	
Arts and Humanities Requirement	3	**KSC 060**
Outside Concentration	3	
Total Credits: 15		
Semester 2		
ECON 520 - Intermediate Microeconomics **OR**	3	
ECON 521 - Intermediate Microeconomic Theory	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Social and Behavioral Sciences Requirement	3	**KSC 050**
BS Natural Science	3	
Free Elective: ECON 401 recommended	1	
Total Credits: 16		
Third Year		

Semester 1			
ACCTG 231 - Introduction to Managerial Accounting	3		
Econ Elective: 530, 540, 605, 620, 631, 633, 640, 681, or 684	3		
Econ Elective: 530, 540, 605, 620, 631, 633, 640, 681, or 684	3		
MUSIC 173 - Music as Protest and Propaganda in the United States	3		
Outside Concentration	3		
Total Credits: 15			
Semester 2			
Econ Elective: 530, 540, 605, 620, 631, 633, 640, 681, or 684	3		
FINAN 450 - Principles of Finance	3		
Econ Elective: 530, 540, 605, 620, 631, 633, 640, 681, or 684	3		
Global Perspectives	3		
Free Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
ACCTG 241 - Introduction to Financial Accounting **OR**	3		
MANGT 220 - Principles of Management **OR**	3		
MKTG 250 - Introduction to Marketing	3		
Econ Elective: ECON 500-799	3		
Ethical Reasoning Overlay	3		
Free Elective	3		
Outside Concentration	3		

Total Credits: 15		
Semester 2		
ECON 580 Senior Seminar in Economics	3	
Free Elective	3	
Free Elective	3	
Free Elective	3	
Free Elective	3	
Total Credits: 15		
Total Program Hours: 120		

Economics - Economic Analyst (BA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ECON 110 - Principles of Macroeconomics	3	**KSC 050**
English Requirement	3	**KSC 010**
BA Language	4	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 15		
Semester 2		
ECON 120 - Principles of Microeconomics	3	

English Requirement	3	**KSC 010**
Arts & Humanities Requirement	3	**KSC 060**
BA Language	4	
STAT 510 - Introductory Probability and Statistics I	3	
Total Credits: 16		
Second Year		
Semester 1		
ECON 510 - Intermediate Macroeconomics	3	
Outside Concentration	3	
BA Language	4	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Natural & Physical Sciences Requirement - with Lab	4	**KSC 040**
Total Credits: 17		
Semester 2		
ECON 520 - Intermediate Microeconomics **OR**	3	
ECON 521 - Intermediate Microeconomic Theory	3	
Communication Requirement	3	**KSC 020**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
BA Language	3	**KSC 060**
MATH 221 - Analytic Geometry and Calculus II	4	
Total Hours: 16		
Third Year		

Semester 1		
STAT 511 - Introductory Probability and Statistics II	3	
ECON Elective	3	
ECON Elective	3	
BA Humanities	3	**KSC 060**
BA Fine Arts	3	
BA Non-Quan Social Science	3	
Total Credits: 18		
Semester 2		
ECON 630 - Introduction to Econometrics	3	
ECON Elective	3	
Global Perspectives Overlay	3	
US Multicultural Overlay	3	
Free Elective	1	
Total Credits: 13		
Fourth Year		
Semester 1		
ECON 686 - Economics Forecasting	3	
Outside Concentration	3	
Social & Behavioral Science Requirement	3	**KSC 050**
Free Elective	3	
PHILO 135 - Introduction to Social and Political Philosophy	3	
Total Credits: 13		

Semester 2		
ECON 580 - Senior Seminar in Economics	3	
Free Elective	3	
Free Elective	3	
ECON 681 - International Trade	3	
Total Credits: 12		
Total Program Hours: 120		

Economics - Economic Analyst (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ECON 110 - Principles of Macroeconomics	3	**KSC 050**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
English Requirement	3	**KSC 010**
Communications Requirement	3	**KSC 020**
Total Credits: 14		
Semester 2		
ECON 120 - Principles of Microeconomics	3	
ECON 510 - Intermediate Macroeconomics	3	
English Requirement	3	**KSC 010**

Natural and Physical Sciences Requirement	4	**KSC 040**
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Second Year		
Semester 1		
ECON 510 - Intermediate Macroeconomics	3	
MATH 221 - Analytic Geometry and Calculus II	4	
STAT 511 - Introductory Probability and Statistics II	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Semester 2		
ECON 520 - Intermediate Microeconomics **OR**	3	
ECON 521 - Intermediate Microeconomic Theory	3	
MUSIC 173 - Music as Protest and Propaganda in the United States	3	
Free Elective: ECON 401 Recommended	1	
BS Natural Science	3	
Total Credits: 16		
Third Year		
Semester 1		
ECON 681 - International Trade	3	
ECON Elective	3	

Outside Concentration	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Social & Behavioral Science Requirement	3	**KSC 050**
Total Credits: 15		
Semester 2		
ECON 630 - Introduction to Econometrics	3	
Free Elective	3	
Free Elective	3	
Outside Concentration	3	
ECON Elective	3	
Total Credits: 15		
Fourth Year		
Semester 1		
ECON 686 - Economics Forecasting	3	
Free Elective	3	
Free Elective	3	
Free Elective	3	
Free Elective	3	
Total Credits: 15		
Semester 2		
ECON 580 - Senior Seminar in Economics	3	
Free Elective	3	

Free Elective	3	
Free Elective	1	
PHILO 135 - Introduction to Social and Political Philosophy	3	
Total Credits: 13		
Total Program Hours: 120		

Economics - Economic Policy (BA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ECON 110 - Principles of Macroeconomics	3	**KSC 050**
MATH 205 - General Calculus	3	**KSC 030**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
English Requirement	3	**KSC 010**
BA Language	4	
Total Credits: 14		
Semester 2		
ECON 120 - Principles of Microeconomics	3	
English Requirement	3	**KSC 010**
STAT 225 - Introduction to Statistics	3	
Art & Humanities Requirement	3	**KSC 060**
BA Language	4	
Total Credits: 16		

Second Year		
Semester 1		
ECON 510 - Intermediate Macroeconomics	3	
Outside Concentration	3	
BA Language	4	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Natural & Behavioral Sciences Requirement	4	**KSC 040**
Total Credits: 17		
Semester 2		
ECON 520 - Intermediate Microeconomics **OR**	3	
ECON 521 - Intermediate Microeconomic Theory	3	
Communication Requirement	3	**KSC 020**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
BA Language	3	
Free Elective	1	
Total Credits: 13		
Third Year		
Semester 1		
MUSIC 173 - Music as Protest and Propaganda in the United States	3	
Upper Level Stats	3	
ECON Elective	3	
ECON Elective	3	

BA Humanities	3	
BA non-quan social science	3	
Total Credits: 18		
Semester 2		
ECON 681 - International Trade	3	
ECON Elective	3	
US Multicultural Overlay	3	
PHILO 130 - Introduction to Moral Philosophy	3	
Total Credits: 12		
Fourth year		
Semester 1		
ECON 524 - Sports Economics	3	
Outside Concentration	3	
ECON Additional Req: PHILO 110 or PHILO 130, or POLSC 115, or POLSC 155	3	
Social & Behavioral Science Requirement	3	**KSC 050**
Free Elective	3	
Total Credits: 15		
Semester 2		
ECON 580 - Senior Seminar in Economics	3	
Free Electives	3	
Free Electives	3	
Free Electives	3	

Free Electives	3		
Total Credits: 15	3		
Total Program Hours: 120			

Economics - Economic Policy (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.			
First Year	**Hours**	**K-State Core**	
Semester 1			
ECON 110 - Principles of Macroeconomics	3	**KSC 050**	
MATH 205 - General Calculus	3	**KSC 030**	
English Requirement	3	**KSC 010**	
Communication Requirement	3	**KSC 020**	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
Total Credits: 13			
Semester 2			
ECON 120 - Principles of Microeconomics	3		
English Requirement	3	**KSC 010**	
STAT 225 - Introduction to Statistics **OR**	3		
STAT 240 - Biometrics I **OR**	3		
STAT 250 - Business and Economic Statistics I **OR**	3		
STAT 510 - Introductory Probability and Statistics I **OR**	3		

STAT 610 - Introduction to Mathematical Statistics I **OR**	3	
STAT 703 - Introduction to Statistical Methods for the Sciences	3	
Natural & Physical Sciences Requirement	4	**KSC 040**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Second Year		
Semester 1		
ECON 510 - Intermediate Macroeconomics	3	
Outside Concentration	3	
STAT 351 - Business and Economic Statistics II **OR**	3	
STAT 611 - Introduction to Mathematical Statistics II **OR**	3	
STAT 705 - Regression and Analysis of Variance	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Semester 2		
ECON 520 - Intermediate Microeconomics **OR**	3	
ECON 521 - Intermediate Microeconomic Theory	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
BS Natural Science	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Free Elective: ECON 401 recommended	1	
Outside Concentration	3	

Total Credits: 16			
Third Year			
Semester 1			
PHILO 130 - Introduction to Moral Philosophy	3		
Outside Concentration	3		
Economics Elective:			
ECON 620 - Labor Economics **OR**	3		
ECON 630 - Introduction to Econometrics **OR**	3		
ECON 633 - Public Finance **OR**	3		
ECON 640 - Industrial Organization and Public Policy	3		
Economics Elective:			
ECON 620 - Statistical Methods I **OR**	3		
ECON 630 - Introduction to Econometrics **OR**	3		
ECON 633 - Public Finance **OR**	3		
ECON 640 - Industrial Organization and Public Policy	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
MUSIC 173 - Music as Protest and Propaganda in the United States	3		
ECON Elective: ECON 524, ECON 527, ECON 530, ECON 536, ECON 555, ECON 605, ECON 620, ECON 630, ECON 631, ECON 633, ECON 640, ECON 682, ECON 688, ECON 710	3		
ECON Elective: ECON 524, ECON 527, ECON 530, ECON 536, ECON 555, ECON 605, ECON 620, ECON 630, ECON 631, ECON 633, ECON 640, ECON 682, ECON 688, ECON 710	3		
Global Perspectives	3		

Free Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
ECON 524 - Sports Economics	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
ECON 580 - Senior Seminar in Economics	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			
Total Program Hours: 120			

Economics - Financial Economics (BA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.			

First Year	Hours	K-State Core
Semester 1		
ECON 110 - Principles of Macroeconomics	3	**KSC 050**
MATH 205 - General Calculus	3	**KSC 030**
English Requirement	3	**KSC 010**
BA Language	4	**KSC 060**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits:		
Semester 2		
ECON 120 - Principles of Microeconomics	3	
English Requirement	3	**KSC 010**
STAT 225 - Introduction to Statistics **OR**	3	
STAT 240 - Biometrics I **OR**	3	
STAT 250 - Business and Economic Statistics I **OR**	3	
STAT 510 - Introductory Probability and Statistics I **OR**	3	
STAT 610 - Introduction to Mathematical Statistics I **OR**	3	
STAT 703 - Introduction to Statistical Methods for the Sciences	3	
Arts & Humanities Requirement	3	**KSC 060**
BA Language	4	
Total Credits: 16		
Second Year		
Semester 1		
ECON 510 - Intermediate Macroeconomics	3	

Outside Concentration	3	
BA Language	4	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Natural & Physical Sciences Requirement with Lab	4	**KSC 040**
Total Credits: 17		
Semester 2		
ECON 520 - Intermediate Microeconomics **OR**	3	
ECON 521 - Intermediate Microeconomic Theory	3	
Communication Requirement	3	**KSC 020**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
BA Language	3	
Free Elective; ECON 401 Recommended	3	
Total Credits: 13	1	
Third Year		
Semester 1		
ACCTG 231 - Introduction to Managerial Accounting	3	
Upper Level Stats	3	
ECON Elective	3	
ECON 681 - International Trade	3	
BA Humanities	3	
Total Credits: 15		
Semester 2		

FINAN 450 - Principles of Finance	3	
ECON Elective: ECON 530, ECON 630, ECON 684, **OR** FINAN 520	3	
ECON Elective: ECON 530, ECON 605, ECON 630, ECON 640, ECON 681, ECON 684, ECON 686, ECON 590, **OR** FINAN 520	3	
Global Perspectives Overlay	3	
US Multicultural Overlay	3	
Total Credits: 15		
Fourth Year		
Semester 1		
ECON 681 - International Trade	3	
Outside Concentration	3	
BA non-quan social science	3	
BA Fine Arts	3	
Social & Behavioral Science Requirement	3	**KSC 050**
Total Credits: 15		
Semester 2		
ECON 580 - Senior Seminar in Economics	3	
Free Elective	3	
Free Elective	3	
Free Elective	3	
Free Elective	3	
Total Credits: 15		
Total Program Hours: 120		

Economics - Financial Economics (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ECON 110 - Principles of Macroeconomics	3	**KSC 050**
MATH 205 - General Calculus	3	**KSC 030**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
English Requirement	3	**KSC 010**
Communications Requirement	3	**KSC 020**
Total Credits: 13		
Semester 2		
ECON 120 - Principles of Microeconomics	3	
English Requirement	3	**KSC 010**
Intro to Stats: STAT 225, STAT 240, STAT 250, STAT 510, STAT 610, STAT 703	3	
Natural and Physical Sciences Requirement	4	**KSC 040**
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Second Year		
Semester 1		
ECON 510 - Intermediate Macroeconomics	3	
ACCTG 231 - Introduction to Managerial Accounting	3	

Advanced Stats: STAT 351, STAT 611, STAT 705	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Semester 2		
ECON 520 - Intermediate Microeconomics **OR**	3	
ECON 521 - Intermediate Microeconomic Theory	3	
Outside Concentration	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
BS Natural Science	3	
Social and Behavioral Sciences Requirement	3	**KSC 050**
Free Elective (ECON 401 recommended)	1	
Total Credits: 16		
Third Year		
Semester 1		
FINAN 450 - Principles of Finance	3	
Outside Concentration	3	
BS Fine Arts or Humanities	3	
ECON Elective: ECON 530, ECON 630, ECON 684, ECON 590, or FINAN 520	3	
ECON Elective: ECON 530, ECON 630, ECON 684, ECON 590, or FINAN 520	3	
Total Credits: 15		
Semester 2		

PHILO 135 -Introduction to Social and Political Philosophy	3	
ECON Elective: ECON 530, ECON 630, ECON 684, ECON 590, or FINAN 520	3	
ECON Elective: ECON 530, ECON 605, ECON 630, ECON 640, ECON 681, ECON 684, ECON 590, or FINAN 520	3	
US Multicultural Overlay	3	
Outside Concentration	3	
Total Credits: 15		
Fourth Year		
Semester 1		
ECON 681 -International Trade	3	
Ethical Reasoning Overlay	3	
Free Elective	3	
Free Elective	3	
Free Elective	3	
Total Credits: 15		
Semester 2		
ECON 580 - Senior Seminar in Economics	3	
Free Elective	3	
Free Elective	3	
Free Elective	3	
Free Elective	3	
Total Credits: 15		
Total Program Hours: 120		

English

Karin Westman, Head

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Bachelor of Arts

English - Literature (BA)

Students select courses from six areas: Foundations (6 credit hours), The Craft of Writing (3 credit hours), Historical and Cultural Contexts (9 credit hours), Multicultural and Global Literatures (6 credit hours), and Experiential Learning and Professional Development (1-3 credit hours). For a final area, Concentration and Additional Electives, students select 9 credit hours for a concentration in a particular area of interest, such as courses in creative writing or courses required for Teaching Licensure.

While completing the requirements, students must take at least 3 credit hours of pre-1800 literature and 3 credit hours of post-1800 literature, and they must select three 3-credit hour courses at 600-700 level. One 3-credit hour course at the 200-level may be selected for the area titled Concentration and Additional Electives. Students must achieve a C or better in all courses taken for major or minor credit.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except English** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for **ENGL**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Program

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Foundations: 6 credit hours

Students are required to take ENGL 310 and one additional 3 Credit Hour course from the list below.

Courses that count for the Foundations Category introduce students to the practices and methodologies of the study of English literature, language, and culture. Required within this category: ENGL 310.

- ENGL 310 - Introduction to Literary Studies **Credits:** 3
- ENGL 315 - Introduction to Popular Culture **Credits:** 3
- ENGL 430 - The Structure of English **Credits:** 3
- ENGL 435 - Linguistics for Teachers of English **Credits:** 3
- ENGL 476 - American English **Credits:** 3
- ENGL 490 - Development of the English Language **Credits:** 3

The Craft of Writing: 3 Credit Hours

Courses that count for the Craft of Writing Category will be at the 300-level or above and demonstrate a focus on the praxis of writing as a process for specific audiences and purposes, with multiple drafts and opportunities for revision. Choose one course from the following

- ENGL 300 - Expository Writing III **Credits:** 3
- ENGL 302 - Technical Writing **Credits:** 3
- ENGL 400 - Advanced Expository Writing for Prospective Teachers **Credits:** 3
- ENGL 415 - Written Communication for Engineers **Credits:** 3
- ENGL 417 - Written Communication for the Workplace **Credits:** 3
- ENGL 461 - Introduction to Fiction Writing **Credits:** 3
- ENGL 463 - Introduction to Poetry Writing **Credits:** 3
- ENGL 465 - Introduction to Creative Nonfiction **Credits:** 3
- ENGL 469 - Special Topics in Creative Writing **Credits:** 3
- ENGL 485 - Topics in Rhetoric and Literacy **Credits:** 3
- ENGL 510 - Introduction to Professional Writing **Credits:** 3
- ENGL 516 - Written Communication for the Sciences **Credits:** 3
- ENGL 661 - Advanced Creative Writing: Prose Fiction **Credits:** 3
- ENGL 662 - Playwriting **Credits:** 3
- ENGL 663 - Advanced Creative Writing: Poetry **Credits:** 3
- ENGL 665 - Advanced Creative Writing: Nonfiction **Credits:** 3
- ENGL 669 - Advanced Creative Writing: Special Topics **Credits:** 3
- ENGL 756 - Business Communication **Credits:** 3
- ENGL 759 - Studies in Technical Communication **Credits:** 3
- ENGL 758 - Scientific Communication **Credits:** 3
- ENGL 761 - Creative Writing Workshop: Short Fiction **Credits:** 3
- ENGL 762 - Advanced Playwriting **Credits:** 3
- ENGL 763 - Creative Writing Workshop: Poetry **Credits:** 3
- ENGL 765 - Creative Writing Workshop: Creative Nonfiction **Credits:** 3
- ENGL 769 - Creative Writing Workshop/Special Topic **Credits:** 3
- ENGL 771 - Creative Writing Workshop: Novel/Novella **Credits:** 3
- ENGL 772 - Creative Writing Workshop: The YA Novel **Credits:** 3

Historical & Cultural Contexts: 9 Credit Hours

Must take one Pre-1800 course, one Post-1800 course, and one course of the student's choosing from the following:

- ENGL 309 - Introduction to Classical Literature in Translation **Credits:** 3
- ENGL 325 - Literature and Technology **Credits:** 3
- ENGL 330 - Fiction **Credits:** 3
- ENGL 335 - Film **Credits:** 3
- ENGL 340 - Poetry **Credits:** 3
- ENGL 345 - Drama **Credits:** 3
- ENGL 350 - Introduction to Shakespeare **Credits:** 3
- ENGL 355 - Literature for Children **Credits:** 3
- ENGL 361 - British Survey I **Credits:** 3
- ENGL 362 - British Survey II **Credits:** 3
- ENGL 381 - American Survey I **Credits:** 3
- ENGL 382 - American Survey II **Credits:** 3
- ENGL 384 - Multicultural Children's Literature **Credits:** 3
- ENGL 385 - Selected American Ethnic Literatures **Credits:** 3

- ENGL 386 - African American Literatures **Credits:** 3
- ENGL 387 - American Indian Literatures **Credits:** 3
- ENGL 388 - Asian American Literatures **Credits:** 3
- ENGL 389 - Latina/o Literatures **Credits:** 3
- ENGL 390 - Fable and Fantasy **Credits:** 3
- ENGL 392 - Literature and the Body **Credits:** 3
- ENGL 420 - Topics in Film **Credits:** 3
- ENGL 424 - Topics in Television **Credits:** 3
- ENGL 440 - Themes in Literature **Credits:** 3
- ENGL 445 - Literary Kinds **Credits:** 3
- ENGL 450 - Literature and Society **Credits:** 3
- ENGL 470 - The Bible **Credits:** 3
- ENGL 490 - Development of the English Language **Credits:** 3
- ENGL 501 - Topics in Classical Literature in Translation **Credits:** 3
- ENGL 525 - Women in Literature **Credits:** 3
- ENGL 545 - Literature for Adolescents **Credits:** 3
- ENGL 570 - Law, Politics, and Literature **Credits:** 3
- ENGL 575 - Holocaust Literature **Credits:** 3
- ENGL 580 - Selected World Literature **Credits:** 3
- ENGL 602 - Historical Linguistics **Credits:** 3
- ENGL 605 - Readings in Medieval Literature **Credits:** 3
- ENGL 610 - Readings in Renaissance Literature **Credits:** 3
- ENGL 620 - Readings in Seventeenth-Century British Literature **Credits:** 3
- ENGL 625 - Readings in Eighteenth-Century British Literature **Credits:** 3
- ENGL 630 - Readings in Nineteenth-Century British Literature **Credits:** 3
- ENGL 635 - Readings in Twentieth- and Twenty-First-Century British Literature **Credits:** 3
- ENGL 640 - Readings in Early American Literature **Credits:** 3
- ENGL 645 - Readings in Nineteenth-Century American Literature **Credits:** 3
- ENGL 650 - Readings in Twentieth- and Twenty-First-Century American Literature **Credits:** 3
- ENGL 655 - Readings in American Ethnic Literature **Credits:** 3
- ENGL 660 - Readings in Major Authors **Credits:** 3
- ENGL 670 - Topics in British Literature **Credits:** 3
- ENGL 680 - Topics in American Literature **Credits:** 3
- ENGL 685 - Readings in World Literature **Credits:** 3
- ENGL 690 - Topics in Literature for the Young **Credits:** 3
- ENGL 695 - Topics in Literature **Credits:** 3
- ENGL 700 - Old English **Credits:** 3
- ENGL 703 - Critical Approaches to Children's Literature **Credits:** 3
- ENGL 710 - Studies in a Literary Genre **Credits:** 3
- ENGL 715 - Topics in Film / Screen Studies **Credits:** 3
- ENGL 720 - Studies in a Major Author **Credits:** 3
- ENGL 725 - Studies in Children's/Young Adult Literature **Credits:** 3
- ENGL 730 - Studies in a Literary Period **Credits:** 3
- ENGL 705 - Theories of Cultural Studies **Credits:** 3
- ENGL 740 - Studies in Literary Theory **Credits:** 3
- ENGL 745 - Cultural Studies **Credits:** 3

- ENGL 753 - Theories of Composition and Rhetoric **Credits:** 3
- ENGL 755 - Studies in Composition and Rhetoric **Credits:** 3
- ENGL 790 - History of the English Language **Credits:** 3
- ENGL 795 - Literary Theory **Credits:** 3

Pre-1800 - 3 Credit Hours

- ENGL 309 - Introduction to Classical Literature in Translation **Credits:** 3
- ENGL 350 - Introduction to Shakespeare **Credits:** 3
- ENGL 361 - British Survey I **Credits:** 3
- ENGL 470 - The Bible **Credits:** 3
- ENGL 501 - Topics in Classical Literature in Translation **Credits:** 3
- ENGL 602 - Historical Linguistics **Credits:** 3
- ENGL 605 - Readings in Medieval Literature **Credits:** 3
- ENGL 610 - Readings in Renaissance Literature **Credits:** 3
- ENGL 620 - Readings in Seventeenth-Century British Literature **Credits:** 3
- ENGL 625 - Readings in Eighteenth-Century British Literature **Credits:** 3
- ENGL 640 - Readings in Early American Literature **Credits:** 3
- ENGL 700 - Old English **Credits:** 3
- ENGL 790 - History of the English Language **Credits:** 3

Post-1800 - 3 Credit Hours

- ENGL 315 - Introduction to Popular Culture **Credits:** 3
- ENGL 324 - Television **Credits:** 3
- ENGL 325 - Literature and Technology **Credits:** 3
- ENGL 326 - Introduction to Digital Humanities **Credits:** 3
- ENGL 362 - British Survey II **Credits:** 3
- ENGL 382 - American Survey II **Credits:** 3
- ENGL 384 - Multicultural Children's Literature **Credits:** 3
- ENGL 392 - Literature and the Body **Credits:** 3
- ENGL 420 - Topics in Film **Credits:** 3
- ENGL 424 - Topics in Television **Credits:** 3
- ENGL 545 - Literature for Adolescents **Credits:** 3
- ENGL 570 - Law, Politics, and Literature **Credits:** 3
- ENGL 630 - Readings in Nineteenth-Century British Literature **Credits:** 3
- ENGL 635 - Readings in Twentieth- and Twenty-First-Century British Literature **Credits:** 3
- ENGL 645 - Readings in Nineteenth-Century American Literature **Credits:** 3
- ENGL 650 - Readings in Twentieth- and Twenty-First-Century American Literature **Credits:** 3
- ENGL 715 - Topics in Film / Screen Studies **Credits:** 3

Additional Historical & Cultural Context - 3 Credit Hours

Multicultural & Global Literatures: 6 Credit Hours

Courses that count for the Multicultural & Global Literatures Category will be at the 300-level and above and demonstrate a central focus on U.S. ethnic minority and/or non-Western authors, experiences, and perspectives. Choose two courses from the below.

Note: To confirm if courses in this category will also fulfill an overlay requirement for the College of Arts and Sciences, visit https://artsci.k-state.edu/academics/degree_requirements/overlays.html

- ENGL 384 - Multicultural Children's Literature **Credits:** 3
- ENGL 385 - Selected American Ethnic Literatures **Credits:** 3
- ENGL 386 - African American Literatures **Credits:** 3
- ENGL 387 - American Indian Literatures **Credits:** 3
- ENGL 388 - Asian American Literatures **Credits:** 3
- ENGL 389 - Latina/o Literatures **Credits:** 3
- ENGL 575 - Holocaust Literature **Credits:** 3
- ENGL 580 - Selected World Literature **Credits:** 3
- ENGL 655 - Readings in American Ethnic Literature **Credits:** 3
- ENGL 685 - Readings in World Literature **Credits:** 3

Experiential Learning & Professional Development: 1-3 Credit Hours

Courses that count for the Experiential Learning & Professional Development Category will demonstrate an experiential learning component in the field of English and related disciplines. **Choose one from the below**

- ENGL 495 - English Internship **Credits:** 1-3
- ENGL 497 - Special Investigations in English **Credits:** 1-18
- ENGL 498 - Honors Tutorial in English **Credits:** 1-3
- ENGL 499 - Honors Project **Credits:** 3
- ENGL 500 - Writing Center Theory and Practice **Credits:** 3
- ENGL 595 - Literary Studies Abroad **Credits:** 3
- ENGL 597 - Career Paths in English and the Humanities **Credits:** 1
- ENGL 599 - Special Research in English **Credits:** 1-18
- ENGL 797 - Professional Writing Internship **Credits:** 0-18
- ENGL 799 - Problems in English **Credits:** 1-18

Electives: 9 Credit Hours

ENGL courses at the 220-799 levels not already selected from the list above.

Advanced English Course: [9] Credit Hours

Not additional courses; an advanced level check of completion of 600 level and above.

May be fulfilled through ENGL courses in K-State Core, free electives, or program requirements.

- Three 3-credit hours courses at 600-799: [9]

BA Arts, Humanities, and Social Sciences Requirement: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 20-37 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

English - Literature and Creative Writing (BA)

Students may elect to earn a BA in the department through a course of study based on one of the following three tracks: literature, literature and creative writing, or literature with teaching licensure. For all three tracks, students must take at least 6 credit hours of pre-1800 literature other than Shakespeare, 6 credit hours of post-1800 literature, 3 credit hours of a literature related to diversity in the U.S. or the world, and a capstone seminar. Students also must achieve a C or better in all courses taken for major or minor credit.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit **except English** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for **ENGL**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Program

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Required Courses: 9 Credit Hours

- ENGL 310 - Introduction to Literary Studies **Credits:** 3
- ENGL 350 - Introduction to Shakespeare **Credits:** 3
- ENGL 698 - Capstone Seminar **Credits:** 3

Language: 3 Credit Hours

Choose one course from the following

- ENGL 430 - The Structure of English **Credits:** 3
- ENGL 435 - Linguistics for Teachers of English **Credits:** 3
- ENGL 476 - American English **Credits:** 3
- ENGL 490 - Development of the English Language **Credits:** 3
- ENGL 757 - Studies in Language and Linguistics **Credits:** 3

300-Level Survey Courses: 6 Credit Hours

Choose two courses from the following

- ENGL 361 - British Survey I **Credits:** 3
- ENGL 362 - British Survey II **Credits:** 3
- ENGL 381 - American Survey I **Credits:** 3
- ENGL 382 - American Survey II **Credits:** 3

Introductory Creative Writing Courses: 6 Credit Hours

Choose two courses from the following

- ENGL 461 - Introduction to Fiction Writing **Credits:** 3
- ENGL 463 - Introduction to Poetry Writing **Credits:** 3
- ENGL 465 - Introduction to Creative Nonfiction **Credits:** 3
- ENGL 469 - Special Topics in Creative Writing **Credits:** 3

Advanced Creative Writing Courses: 6 Credit Hours

Choose two courses from the following for total of 6 credits

- ENGL 661 - Advanced Creative Writing: Prose Fiction **Credits:** 3
- ENGL 662 - Playwriting **Credits:** 3
- ENGL 663 - Advanced Creative Writing: Poetry **Credits:** 3
- ENGL 665 - Advanced Creative Writing: Nonfiction **Credits:** 3
- ENGL 669 - Advanced Creative Writing: Special Topics **Credits:** 3
- ENGL 761 - Creative Writing Workshop: Short Fiction **Credits:** 3
- ENGL 762 - Advanced Playwriting **Credits:** 3
- ENGL 763 - Creative Writing Workshop: Poetry **Credits:** 3
- ENGL 765 - Creative Writing Workshop: Creative Nonfiction **Credits:** 3
- ENGL 769 - Creative Writing Workshop/Special Topic **Credits:** 3
- ENGL 771 - Creative Writing Workshop: Novel/Novella **Credits:** 3
- ENGL 772 - Creative Writing Workshop: The YA Novel **Credits:** 3

200-599 Literature: 3 Credit Hours

Choose one course for 3 credit hours from any ENGL course 200-599 EXCLUDING ENGL 200, 210, 300, 302, 310, 350, 415, and 516 and any ENGL course taken to fulfill requirements listed above. No more than one course (3 credits) may come from ENGL 200-299.

600-799 Literature: 6 Credit Hours

Choose two courses for 6 credit hours from any ENGL course 600-799 EXCLUDING ENGL 604, ENGL 698, ENGL 757, ENGL 758, and ENGL 759

English Overlays: [15] Credit Hours

May be fulfilled through ENGL courses in K-State Core, free electives, or program requirements.

- Diversity Literature Overlay **Credits:** [3]
- Pre-1800 Literature Overlay **Credits:** [6, except for ENGL 350]
- Post-1800 Literature Overlay **Credits:** [6]

BA Arts, Humanities, and Social Sciences Requirement: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 15-28 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

English - Literature with Teaching Licensure (BA)

Students may elect to earn a BA in the department through a course of study based on one of the following three tracks: literature, literature and creative writing, or literature with teaching licensure. For all three tracks, students must take at least 6 credit hours of pre-1800 literature other than Shakespeare, 6 credit hours of post-1800 literature, 3 credit hours of a literature related to diversity in the U.S. or the world, and a capstone seminar. Students also must achieve a C or better in all courses taken for major or minor credit.

Bachelor's degree requirements

Literature with Teacher Licensure Track (42 credit hours)

Students desiring to teach English in high school or overseas should be aware that the BA in English alone will not qualify them to receive licensure. However, the BA in English (Teacher Licensure Track) in conjunction with the BS in Secondary Education will qualify them to earn licensure. Alternately, student may obtain only the BS in Secondary Education (specializing in English-EDENG) to earn licensure. English majors desiring licensure should consult with their advisors about the best method of completing their degree. For specific certification requirements in Secondary Education, see the College of Education.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except English** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for **ENGL**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Program

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Required Courses: 21 Credit Hours

- ENGL 310 - Introduction to Literary Studies **Credits:** 3
- ENGL 350 - Introduction to Shakespeare **Credits:** 3
- ENGL 400 - Advanced Expository Writing for Prospective Teachers **Credits:** 3
- ENGL 435 - Linguistics for Teachers of English **Credits:** 3
- ENGL 500 - Writing Center Theory and Practice **Credits:** 3
- ENGL 545 - Literature for Adolescents **Credits:** 3
- ENGL 698 - Capstone Seminar **Credits:** 3

300-Level Survey Courses: 9 Credit Hours

300-Level Survey Courses (choose three):

- ENGL 361 - British Survey I **Credits:** 3
- ENGL 362 - British Survey II **Credits:** 3
- ENGL 381 - American Survey I **Credits:** 3
- ENGL 382 - American Survey II **Credits:** 3

World Literature: 3 Credit Hours

Choose one course from ENGL 580 or another World Literature course

- ENGL 580 - Selected World Literature **Credits:** 3

Composition Elective: 3 Credit Hours

Choose one

- ENGL 461 - Introduction to Fiction Writing **Credits:** 3
- ENGL 463 - Introduction to Poetry Writing **Credits:** 3
- ENGL 465 - Introduction to Creative Nonfiction **Credits:** 3
- ENGL 469 - Special Topics in Creative Writing **Credits:** 3
- ENGL 510 - Introduction to Professional Writing **Credits:** 3

English Course Elective 200-599: 3 Credit Hours

Choose one course for 3 credit hours from any ENGL course 200-599 EXCLUDING ENGL 200, 210, 300, 302, 310, 350, 415, and 516 *and any ENGL course taken to fulfill requirements listed above.*

English Literature Course 600–799: 3 Credit Hours

Choose one course for 3 credit hours from any ENGL course 600-799 *EXCLUDING any ENGL course taken to fulfill requirements listed above.*

English Overlays: [15] Credit Hours

May be fulfilled through ENGL courses in K-State Core, free electives, or program requirements.

- Diversity Literature Overlay **Credits:** [3]
- Pre-1800 Literature Overlay **Credits:** [6, except for ENGL 350]
- Post-1800 Literature Overlay **Credits:** [6]

BA Arts, Humanities, and Social Sciences Requirement: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 6-19 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Minor

English Minor

Students have three options for the minor in English: emphasis in literature, emphasis in writing, and emphasis in children's and adolescent literature and culture.

Students must achieve a C or better in all courses taken for minor credit.

English minor with an emphasis in literature

- ENGL 310 - Introduction to Literary Studies **Credits:** 3

Select two of the four American and/or British survey courses (6 credit hours)

Choose two:

- ENGL 361 - British Survey I **Credits:** 3
- ENGL 362 - British Survey II **Credits:** 3
- ENGL 381 - American Survey I **Credits:** 3
- ENGL 382 - American Survey II **Credits:** 3

Select two courses numbered 300-599 or above (6 credit hours)

- ENGL 309 - Introduction to Classical Literature in Translation **Credits:** 3
- ENGL 315 - Introduction to Popular Culture **Credits:** 3
- ENGL 325 - Literature and Technology **Credits:** 3
- ENGL 330 - Fiction **Credits:** 3
- ENGL 335 - Film **Credits:** 3
- ENGL 340 - Poetry **Credits:** 3
- ENGL 345 - Drama **Credits:** 3
- ENGL 350 - Introduction to Shakespeare **Credits:** 3
- ENGL 355 - Literature for Children **Credits:** 3
- ENGL 384 - Multicultural Children's Literature **Credits:** 3
- ENGL 385 - Selected American Ethnic Literatures **Credits:** 3
- ENGL 386 - African American Literatures **Credits:** 3
- ENGL 387 - American Indian Literatures **Credits:** 3
- ENGL 388 - Asian American Literatures **Credits:** 3
- ENGL 389 - Latina/o Literatures **Credits:** 3
- ENGL 390 - Fable and Fantasy **Credits:** 3
- ENGL 395 - Topics in English **Credits:** 1-3
- ENGL 399 - Honors Seminar in English **Credits:** 1-3

- ENGL 420 - Topics in Film **Credits:** 3
- ENGL 430 - The Structure of English **Credits:** 3
- ENGL 440 - Themes in Literature **Credits:** 3
- ENGL 445 - Literary Kinds **Credits:** 3
- ENGL 450 - Literature and Society **Credits:** 3
- ENGL 461 - Introduction to Fiction Writing **Credits:** 3
- ENGL 463 - Introduction to Poetry Writing **Credits:** 3
- ENGL 465 - Introduction to Creative Nonfiction **Credits:** 3
- ENGL 470 - The Bible **Credits:** 3
- ENGL 501 - Topics in Classical Literature in Translation **Credits:** 3
- ENGL 525 - Women in Literature **Credits:** 3
- ENGL 545 - Literature for Adolescents **Credits:** 3
- ENGL 570 - Law, Politics, and Literature **Credits:** 3
- ENGL 575 - Holocaust Literature **Credits:** 3
- ENGL 580 - Selected World Literature **Credits:** 3
- ENGL 595 - Literary Studies Abroad **Credits:** 3
- ENGL 599 - Special Research in English **Credits:** 1-18

Select one literature course numbered 600 or above (3 credit hours)

- ENGL 605 - Readings in Medieval Literature **Credits:** 3
- ENGL 610 - Readings in Renaissance Literature **Credits:** 3
- ENGL 620 - Readings in Seventeenth-Century British Literature **Credits:** 3
- ENGL 625 - Readings in Eighteenth-Century British Literature **Credits:** 3
- ENGL 630 - Readings in Nineteenth-Century British Literature **Credits:** 3
- ENGL 635 - Readings in Twentieth- and Twenty-First-Century British Literature **Credits:** 3
- ENGL 640 - Readings in Early American Literature **Credits:** 3
- ENGL 645 - Readings in Nineteenth-Century American Literature **Credits:** 3
- ENGL 650 - Readings in Twentieth- and Twenty-First-Century American Literature **Credits:** 3
- ENGL 655 - Readings in American Ethnic Literature **Credits:** 3
- ENGL 660 - Readings in Major Authors **Credits:** 3
- ENGL 670 - Topics in British Literature **Credits:** 3
- ENGL 680 - Topics in American Literature **Credits:** 3
- ENGL 690 - Topics in Literature for the Young **Credits:** 3
- ENGL 695 - Topics in Literature **Credits:** 3
- ENGL 700 - Old English **Credits:** 3
- ENGL 703 - Critical Approaches to Children's Literature **Credits:** 3
- ENGL 705 - Theories of Cultural Studies **Credits:** 3
- ENGL 710 - Studies in a Literary Genre **Credits:** 3
- ENGL 720 - Studies in a Major Author **Credits:** 3
- ENGL 730 - Studies in a Literary Period **Credits:** 3
- ENGL 740 - Studies in Literary Theory **Credits:** 3
- ENGL 795 - Literary Theory **Credits:** 3

English minor with an emphasis in writing

- ENGL 310 - Introduction to Literary Studies **Credits:** 3

Select one American or British survey course (3 credit hours)

- ENGL 361 - British Survey I **Credits:** 3
- ENGL 362 - British Survey II **Credits:** 3
- ENGL 381 - American Survey I **Credits:** 3
- ENGL 382 - American Survey II **Credits:** 3

Select any four writing courses (12 credit hours)

One of these courses must be numbered 600 or above.

- ENGL 300 - Expository Writing III **Credits:** 3
- ENGL 302 - Technical Writing **Credits:** 3
- ENGL 400 - Advanced Expository Writing for Prospective Teachers **Credits:** 3
- ENGL 417 - Written Communication for the Workplace **Credits:** 3
- ENGL 455 - Exploring Creativity **Credits:** 3
- ENGL 461 - Introduction to Fiction Writing **Credits:** 3
- ENGL 463 - Introduction to Poetry Writing **Credits:** 3
- ENGL 465 - Introduction to Creative Nonfiction **Credits:** 3
- ENGL 469 - Special Topics in Creative Writing **Credits:** 3
- ENGL 485 - Topics in Rhetoric and Literacy **Credits:** 3
- ENGL 500 - Writing Center Theory and Practice **Credits:** 3
- ENGL 510 - Introduction to Professional Writing **Credits:** 3
- ENGL 516 - Written Communication for the Sciences **Credits:** 3
- ENGL 604 - Expository Writing Workshop **Credits:** 3
- ENGL 661 - Advanced Creative Writing: Prose Fiction **Credits:** 3
- ENGL 662 - Playwriting **Credits:** 3
- ENGL 663 - Advanced Creative Writing: Poetry **Credits:** 3
- ENGL 665 - Advanced Creative Writing: Nonfiction **Credits:** 3
- ENGL 753 - Theories of Composition and Rhetoric **Credits:** 3
- ENGL 755 - Studies in Composition and Rhetoric **Credits:** 3
- ENGL 756 - Business Communication **Credits:** 3
- ENGL 758 - Scientific Communication **Credits:** 3
- ENGL 759 - Studies in Technical Communication **Credits:** 3
- ENGL 761 - Creative Writing Workshop: Short Fiction **Credits:** 3
- ENGL 762 - Advanced Playwriting **Credits:** 3
- ENGL 763 - Creative Writing Workshop: Poetry **Credits:** 3
- ENGL 765 - Creative Writing Workshop: Creative Nonfiction **Credits:** 3
- ENGL 769 - Creative Writing Workshop/Special Topic **Credits:** 3
- ENGL 771 - Creative Writing Workshop: Novel/Novella **Credits:** 3

Note:

Course is open only to engineering majors.

- ENGL 415 - Written Communication for Engineers **Credits:** 3

English minor with an emphasis in Children's and Young Adult Literature and Culture

Required courses (12 credit hours)

- ENGL 310 - Introduction to Literary Studies **Credits:** 3
- ENGL 355 - Literature for Children **Credits:** 3
- ENGL 384 - Multicultural Children's Literature **Credits:** 3
- ENGL 545 - Literature for Adolescents **Credits:** 3

Electives (6 credit hours)

Electives may be chosen from any English course with a focus on children's or young adult literature and culture in consultation with an English department advisor.

- One elective from an ENGL course numbered 315-599 **Credits:** 3

Depending on topic, possibilities may include, but are not limited to

- ENGL 390 - Fable and Fantasy **Credits:** 3
- ENGL 420 - Topics in Film **Credits:** 3
- ENGL 440 - Themes in Literature **Credits:** 3
- ENGL 445 - Literary Kinds **Credits:** 3
- ENGL 450 - Literature and Society **Credits:** 3
- One elective from an ENGL course numbered 600-799 **Credits:** 3

Depending on topic, possibilities may include, but are not limited to

- ENGL 630 - Readings in Nineteenth-Century British Literature **Credits:** 3
- ENGL 670 - Topics in British Literature **Credits:** 3
- ENGL 680 - Topics in American Literature **Credits:** 3
- ENGL 695 - Topics in Literature **Credits:** 3
- ENGL 703 - Critical Approaches to Children's Literature **Credits:** 3
- ENGL 710 - Studies in a Literary Genre **Credits:** 3
- ENGL 720 - Studies in a Major Author **Credits:** 3
- ENGL 725 - Studies in Children's/Young Adult Literature **Credits:** 3
- ENGL 730 - Studies in a Literary Period **Credits:** 3

Total credit hours: (18)

Undergraduate Certificate

Film Studies Undergraduate Certificate

The certificate requires a minimum of 12 hours at or above the 100 level that are passed with a C or better for 2.5 GPA or higher. Courses cannot be taken pass/fail.

Students must complete a minimum of 4 different courses from three categories:

- 3 hours from Core 1 (Production)
- 3 hours from Core 2 (Analysis)
- 6 additional hours from Electives.

Students cannot earn duplicate credit for courses for Core 1 and Core 2 in electives. For example, if a student takes MC 385 to fulfill credit for Core 1, MC 385 CANNOT count also as an elective course.

Core 1: Production

Student must take 3 credit hours from the following:

- ANTH 715 - Research Methods in Digital Ethnography **Credits:** 3
- ART 621 - Advanced Concepts in Digital Video **Credits:** 3
- MC 190-193 Topics in Journalism and Mass Communications **Credits:** 1-3
- MC 301 - Photo & Video Storytelling **Credits:** 3

Core 2: Interpretation

Student must take one course at 3 credit hours from one of the following:

- ENGL 220 - Fiction into Film **Credits:** 3
- ENGL 335 - Film **Credits:** 3
- THTRE 235 - Introduction to the Art of Film **Credits:** 3
- THTRE 630 - Topics in Theatre **Credits:** 1-4

Electives

Students must take a minimum of 2 3-credit hour courses of the following:

- AMETH 560 Top/Amer Ethnic Study: Misrepresented in Media **Credits:** 3
- AMETH 560 Topics: Film **Credits:** 3
- ANTH 715 - Research Methods in Digital Ethnography **Credits:** 3
- ART 395 - Introduction to Digital Photography **Credits:** 3
- ART 563 - Topics in Digital Photography **Credits:** 3
- ART 568 - Topics in Analog Photography **Credits:** 3
- ART 621 - Advanced Concepts in Digital Video **Credits:** 3
- ART 623 - Advanced Concepts in Digital and Expanded Media **Credits:** 3
- ENGL 220 - Fiction into Film **Credits:** 3
- ENGL 335 - Film **Credits:** 3
- ENGL 420 - Topics in Film **Credits:** 3
- ENGL 740 - Studies in Literary Theory **Credits:** 3 (when offered as "Film Theory")
- ENGL 745 - Cultural Studies **Credits:** 3 (when offered as "Film")
- FREN 512 - French/Francophone Cinema **Credits:** 3
- FREN 519 - Special Studies in French **Credits:** 1-18

- GRMN 515 - Topics in German Cultural Studies **Credits:** 3
- GWSS 350 - Gender in American Film **Credits:** 3
- MC 110 - Mass Communication in Society **Credits:** 3
- MC 190-193 Foundations in Audio or Video Production **Credits:** 1 (each)
- MC 301 - Photo & Video Storytelling **Credits:** 3
- MC 331 - Photography Commercial Imaging **Credits:** 3
- MC 485 - Media Practicum **Credits:** 1 (Topics/Video)
- MC 466 - Media Law and Ethics **Credits:** 3
- MC 469 - Drone Photography and Video **Credits:** 3
- MC 471 - Advanced Production **Credits:** 3 (Audio and Video)
- MC 612 - Diversity in Media **Credits:** 3
- SOCIO 500 - Sociological Perspectives on Contemporary Issues **Credits:** 1-3
- SPAN 768 - Hispanic Cinema **Credits:** 3 (Topics/Spanish American Cinema)
- THTRE 235 - Introduction to the Art of Film **Credits:** 3
- THTRE 280 - Script Analysis **Credits:** 3
- THTRE 565 - Principles of Directing **Credits:** 3
- THTRE 630 Topics: Film **Credits:** 3
- THTRE 630 Topics: Acting for the Camera **Credits:** 3

Total hours required: 12

Linguistics Undergraduate Certificate

Proposed Certificate Requirements

The certificate requires 15 hours at or above the 200 level that are passed with a C or better with an overall average of 2.5 GPA or higher. Courses cannot be taken pass/fail. As part of the certificate, students must take one class in each of the following four categories: Foundations of Linguistics, Historical Linguistics, Language and Society, and Language Structure and Use. Students may then choose to fulfill their remaining credit requirements through general electives listed below or any additional courses from the core categories. Classes that fulfill these requirements are listed below.

Division of Course Names

15 total hours. 1 course required from each of the four core components: Foundations of Linguistics, Historical Linguistics, Language and Society, and Language Structure and Use.

Foundations in Linguistics

- ENGL 430 - The Structure of English **Credits:** 3
- MLANG 600 - Principles of Linguistics: Language Structure and Language Use **Credits:** 3
- SPAN 580 - Introduction to Spanish Linguistics **Credits:** 3

Additional options

- ANTH 220 Introduction to Linguistic Anthropology **Credits:** 3
- GRMN 528 Introductory Topics in German Language and Linguistics **Credits:** 3

Historical Linguistics

- ENGL 490 - Development of the English Language **Credits:** 3
- GRMN 728 - History of the German Language **Credits:** 3
- SPAN 776 - History of the Spanish Language **Credits:** 3

Language and Society

- ENGL 476 - American English **Credits:** 3
- ENGL 757 - Studies in Language and Linguistics **Credits:** 3

Additional options

- ANTH 328 - Topics in Linguistic Anthropology **Credits:** 3
- ANTH 525 - Language and Culture **Credits:** 3
- EDCI 731 - ESL/Dual Language Linguistics **Credits:** 3
- ENGL 603 - Topics in Linguistics **Credits:** 1-3

Language Structure and Use

- GRMN 528 - Introductory Topics in German Language and Linguistics **Credits:** 3
- SPAN 670 - Advanced Spanish Grammar **Credits:** 3

Additional Options

- CSD 347 - Introduction to Phonetics **Credits:** 3
- CSD 515 - Laboratory in Acoustic Phonetics **Credits:** 1
- PHILO 320 - Symbolic Logic I **Credits:** 3
- PHILO 625 - The Philosophy of Language **Credits:** 3

Electives/Ancillary Courses with Linguistics Content

- ANTH 528 - Topics in Linguistic Anthropology **Credits:** 1-4
- ANTH 720 - Field Methods in Linguistics **Credits:** 3
- CSD 442 - Developmental Psycholinguistics **Credits:** 3
- CSD 446 - Speech Sound Disorders **Credits:** 4
- ENGL 435 - Linguistics for Teachers of English **Credits:** 3
- MLANG 770 - Theories of 2nd Language Acquisition **Credits:** 3
- MLANG 779 - Seminar in Modern Languages **Credits:** 3

Total hours required: 15

Other Program Choices

English - Literature (BA) Academic Degree Map

First Year	Hours	K-State	
Semester 1			

ENGL 100 - Expository Writing I	3	**KSC 010**
First Foreign Language - Level I	4	
English Course (220–297)	3	
Social and Behavioral Requirement	3	**KSC 050**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 14		
Semester 2		
ENGL 310 - Introduction to Literary Studies	3	
First Foreign Language - Level II	4	
COMM 106 - Public Speaking I	3	**KSC 020**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
English Course 1 (315–599)	3	
Total Credits: 16		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	
First Foreign Language - Level III or Second Foreign Language - Level I	3	
300 - Level ENGL Survey Course	3	
Social and Behavioral Requirement	3	**KSC 050**
Natural/Physical Science Course	4-5	**KSC 040**
Total Credits: 15		

Semester 2			
300-Level ENGL Survey Course	3		
First Foreign Language - Level IV or Second Foreign Language - Level II	3		
Arts & Humanities Requirement	3	**KSC 060**	
Ethical Reasoning Overlay	3		
Natural/Quantitative Restrictive Elective	3		
Total Credits: 15			
Third Year			
Semester 1			
ENGL 350 - Introduction to Shakespeare	3		
Outside Concentration	3		
Fine Arts - Restrictive Elective	3		
English Course 1 (600–799)	3		
Arts & Humanities 2 / Ethical Reasoning Overlay	3	**KSC 060**	
Total Credits: 15			
Semester 2	3		
English Course 2 (315-599) / US Multicultural Overlay	3		
Outside Concentration	3		
Natural/Quantitative Restrictive Elective	3		
English Course 2 (600–799)	3		
English Language Course	3		
Total Credits: 15			

Fourth Year		
Semester 1		
ENGL 698 - Capstone Seminar	3	
Non-Quantitative Social Sciences	3	
English Survey 3	3	
Natural/Quantitative Restrictive Elective	3	
US Multicultural Overlay / Free Elective	3	**KSC 070**
Total Credits: 15		
Semester 2		
English Course 3 (600–799)	3	
Outside Concentration	3	
Global Perspectives Overlay / Free Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective - Internship, Undergraduate Research, or Independent Study Recommended	2	
Total Credits: 14		
Total Program Hours: 120		

English - Literature and Creative Writing (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
ENGL 100 Expository Writing I	3	**KSC 010**
English Course (220–297)	3	

First Foreign Language - Level I	4	
DAS 101 -Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Social and Behavioral Requirement	3	**KSC 050**
Total Credits: 14		
Semester 2		
ENGL 310 - Introduction to Literary Studies	3	
First Foreign Language - Level II	3	
COMM 106 - Public Speaking I	3	**KSC 020**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Intro Creative Writing Course 1	3	
Total Credits: 16		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	
First Foreign Language - Level III or Second Foreign Language - Level I	3	
Natural/Physical Science Course Requirement	4-5	**KSC 040**
English Course 1 (315–599) / US Multicultural Overlay	3	
Social and Behavioral Requirement	3	**KSC 050**
Total Credits: 16		
Semester 2		
Intro Creative Writing Course 2	3	

First Foreign Language - Level IV or Second Foreign Language - Level II / Global Perspectives Overlay	3	
Arts & Humanities 1	3	**KSC 060**
Outside Concentration	3	
Natural/Quantitative Restrictive Elective	3	
Total Credits: 15		
Third Year		
Semester 1		
ENGL 350 - Introduction to Shakespeare 3		
English Survey 1	3	
Arts & Humanities 2 / Ethical Reasoning Overlay	3	**KSC 060**
Outside Concentration	3	
Fine Arts Restricted Elective	3	
Total Credits: 15		
Semester 2		
English Survey 2	3	
Non-Quantitative Social Sciences Restrictive Elective	3	
Natural, Quantitative, or Social Science course w/ MATH or STAT prereq	3	
English Advance Creative Writing Course 1	3	
English Language course		
Total Credits: 15		
Fourth Year		
Semester 1		

ENGL 698 - Capstone Seminar	3	
English Advanced Creative Writing Course 2	3	
Natural/Quantitative Restrictive Elective 2	3	
Outside Concentration	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
English Course (600–799)	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective	3	
Free Elective	3	
Free Elective - Internship, Undergraduate Research, or Independent Study Recommended	2	
Total Credits: 14		

English - Literature with Teaching Licensure (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
ENGL 100 -Expository Writing I	3	**KSC 010**
COMM 106 - Public Speaking I	3	**KSC 020**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
First Foreign Language - Level I	4	
Social and Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 14		

Semester 2		
ENGL 310 - Introduction to Literary Studies	3	
First Foreign Language - Level II	4	
Social and Behavioral Sciences Requirement	3	**KSC 050**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
English Course (220-297 or 309-599) - US Multicultural Overlay	3	
Total Credits: 16		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
First Foreign Language - Level III or Second Foreign Language - Level I	3	
Natural and Physical Sciences Requirement	4-5	**KSC 040**
English Survey Course 1	3	
Natural/Quantitative Restrictive Elective	3	
Total Credits: 16		
Semester 2		
ENGL 435 - Linguistics for Teachers of English	3	
English Survey 2	3	
First Foreign Language - Level IV or Second Foreign Language - Level II (Global Perspectives Overlay)	3	
Outside Concentration	3	
Arts and Humanities Requirement	3	**KSC 060**

Total Credits: 15		
Third Year		
Semester 1		
ENGL 350 - Introduction to Shakespeare	3	
Arts and Humanities Requirement	3	**KSC 060**
English Composition Elective	3	
Outside Concentration	3	
Fine Arts - Restrictive Elective	3	
Total Credits: 15		
Semester 2		
ENGL 400 - Advanced Expository Writing for Prospective Teachers	3	
Outside Concentration	3	
Natural/Quantitative Restrictive Elective with Prerequisite	3	
English Survey 3	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Fourth Year		
Semester 1		
ENGL 580 - Selected World Literature	3	
ENGL 698 - Capstone Seminar	3	
Natural/Quantitative Restrictive Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**

Social Science Non-Quantitative Restricted Elective	3	
Total Credits: 15		
Semester 2		
ENGL 500 - Writing Center Theory and Practice	3	
Free Elective	3	
Free Elective	3	
Free Elective (Internship, Undergraduate Research, or Independent Study Recommended)	2	
English Course (600–799)	3	
Total Credits: 14		
Total Program Hours: 120		

Geography and Geospatial Sciences

Marcellus M. Caldas, Interim Head

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Geography is an integrative discipline that examines the Earth's landforms, inhabitants, and cultures. Geographers seek to understand how spatial connections and patterns unfold across the globe and to apply that knowledge to address pressing social and environmental challenges. In studying spatial phenomena, geographers use various methods and techniques including, but not limited to, mathematical and cartographic analysis, computer mapping, geographic information systems (GIS), remote sensing, and ethnography.

Geography is the original environmental science at the forefront of studies in sustainability and human-environment interaction. Geographers' traditional concern about human impact on the environment leads them to study air pollution, contamination of waterways, urban decay, rural depopulation, and landscape alteration, among other topics. Many of these issues are best understood by considering such interrelated factors as technology, population characteristics, legal structure, cultural traditions, and the environment.

A geography degree gives students the tools to comprehend a complex and dynamic world by helping them understand people, places, landscapes, and environments.

Bachelor of Arts

Geography (BA)

Students of geography develop skills that prepare them for a variety of careers related to spatial analysis, environmental sustainability, natural resource management, urban and regional planning, international development, and more. They may pursue a traditional major in geography, a geography minor, or choose the geography-pre-planning option. The bachelor of science or the bachelor of arts degree may be earned. Students may choose an emphasis in areas such as governance and globalization, planning, or Geographic Information Science (GIS). Graduates pursue careers in conservation, energy, government, environmental protection, law, public policy, transportation, culture, and international affairs; and provide geographic expertise to a wide variety of public and private companies. Other concentrations may be developed to reflect the particular interests of a student, including but not limited to GIS.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except GEOG,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for GEOG) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3] fulfilled by GEOG 100
- US Multicultural Overlay, 1 course **Credits**: [3] may be fulfilled by taking GEOG 370 as an elective

Requirements for the Geography Major

Required Courses: 20 Credit Hours

All of these courses are required.

- GEOG 100 - World Geography & Globalization **Credits:** 3
- GEOG 121 - Introductory Physical Geography: Earth Systems Science **Credits:** 3
- GEOG 122 - Introduction to Physical Geography: Earth Systems Science Laboratory **Credits:** 1
- GEOG 200 - Human Geography **Credits:** 3
- GEOG 302 - Cartography and Thematic Mapping **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- STAT 225 - Introduction to Statistics **Credits:** 3

Category Electives: 11-13 Credit Hours

Students must select: 2 courses from the Human Geography category; 1 course from either the Envrironmental Geography OR Human-Environment Interaction categories; AND 1 course from the Careers in Geography category.

Human Geography: 6 Credit Hours

Select 2 courses for 6 credit hours from the followiing courses

- GEOG 300 - Geography of Tourism **Credits:** 3
- GEOG 310 - Geography of Kansas **Credits:** 3
- GEOG 332 - Introduction to China **Credits:** 3
- GEOG 335 - European Landscapes **Credits:** 3
- GEOG 380 - World Population Issues **Credits:** 3
- GEOG 450 - Geography of Economic Behavior **Credits:** 3
- GEOG 500 - Geography of the United States **Credits:** 3
- GEOG 505 - South Asian Civilizations **Credits:** 3
- GEOG 510 - Geography of the American West **Credits:** 3
- GEOG 550 - Political Geography and Geopolitics **Credits:** 3
- GEOG 620 - Mexico, Central America, and Caribbean **Credits:** 3
- GEOG 622 - Geography of South America **Credits:** 3
- GEOG 660 - Geography of East Asia/China **Credits:** 3
- GEOG 690 - Historical Geography of the United States **Credits:** 3
- GEOG 750 - Urban Geography **Credits:** 3
- GEOG 780 - Cultural Geography **Credits:** 3

Human-Environment Interaction 3 Credit Hours

- GEOG 335 - European Landscapes **Credits:** 3
- GEOG 340 - Natural Resources **Credits:** 3
- GEOG 370 - Environmental Justice **Credits:** 3
- GEOG 460 - Human Dimensions of Global Change **Credits:** 3
- GEOG 600 - Mountain Geography **Credits:** 3
- GEOG 718 - Geography of Public Lands **Credits:** 3
- GEOG 720 - Geography of Land Use **Credits:** 3
- GEOG 722 - Geographies of International Conservation **Credits:** 3
- GEOG 725 - Geography of Water Resources **Credits:** 3
- GEOG 761 - Human Impact on the Environment **Credits:** 3

Environmental Geography 3-4 Credit Hours

- GEOG 235 - Atmospheric Science **Credits:** 4
- GEOG 440 - Spatial Analysis of Surface Water Hydrology **Credits:** 3
- GEOG 445 - Biogeography **Credits:** 3
- GEOG 535 - Global Climatology and Climate Change **Credits:** 4
- GEOG 725 - Geography of Water Resources **Credits:** 3
- GEOG 735 - Topics in Climatology **Credits:** 3
- GEOG 740 - Fluvial Geomorphology **Credits:** 3
- GEOG 745 - Topics in Biogeography **Credits:** 3
- GEOG 761 - Human Impact on the Environment **Credits:** 3
- GEOL 520 - Geomorphology **Credits:** 3

Careers in Geography: 2-3 Credit Hours

- GEOG 495 - Capstone Seminar in Geography **Credits:** 2
- GEOG 497 - Undergraduate Research in Geography **Credits:** 1-3
- GEOG 610 - Geography Internship **Credits:** 1-6
  Or *with Geography advisor approval*, another directly related field experience, study abroad, or other Experiential Learning component. **Credits / Units:** 3

Geography Electives: 9 Credit Hours

Courses may not double count for any of the above requirements.

BA Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3 Credit Hours

Any course or combination of courses in Fine Arts Credits: 3 Credit Hours

BA Natural and Quantitative Restricted Electives: 3 Credit Hours

One course in the following, at any level

Natural Science, or Quantitative: 3 Credit Hours

Courses taken in the Environmental Geography section may also be counted toward this requirement

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 8-24 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours for Graduation: 120

Bachelor of Science

Geographic Information Science and Technology (BS)

Undergraduate students may pursue an interdiscplinary B.S. in Geographic Information Science & Technology (GIS&T). Students completing this degree automatically earn three additional credentials, including the Geography Minor, Computer Science Certificate, and GIS Certificate. Students can also select from several specialization areas to customize their degree to based on interests and career objectives.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration

The A&S requirement for an outside concentration is satisfied by the Computer Science Certificate.

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Quantitative Requirements: 9-11 Credit Hours

Select from the following courses to complete at least 9 hours.

- MATH 205 - General Calculus **Credits:** 3
  OR
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- STAT 225 - Introduction to Statistics **Credits:** 3
  OR
- STAT 240 - Biometrics I **Credits:** 3
- STAT 341 - Biometrics II **Credits:** 3
  OR
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4

Geospatial Requirements: 25 Credit Hours

Select from the following courses to complete 25 credit hours.

- GEOG 302 - Cartography and Thematic Mapping **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- GEOG 602 - Computer Mapping and Geographic Visualization **Credits:** 3
- GEOG 605 - Remote Sensing of the Environment **Credits:** 3
- GEOG 608 - Geographic Information Systems II **Credits:** 3
- GEOG 705 - Thematic Remote Sensing **Credits:** 3
  OR
- GEOG 706 - Biophysical Remote Sensing **Credits:** 3
  OR
- GEOG 707 - Remote Sensing of Water **Credits:** 3
- GEOG 712 - Internet GIS and Distributed Geographic Information Services **Credits:** 3
- GEOG 728 - Programming for Geographic Analysis **Credits:** 3

Computer Science Certificate: 17 Credit Hours

- CC 110 - Introduction to Computing **Credits:** 2
- CC 111 - Elements of Computer Programming **Credits:** 1
- CC 120 - Web Page Development **Credits:** 3
  OR
- CMST 135 - Web Fundamentals **Credits:** 3
- CC 210 - Fundamental Computer Programming Concepts **Credits:** 4
- CC 310 - Data Structures and Algorithms I **Credits:** 3
- CC 410 - Advanced Programming **Credits:** 4

Experiential Learning: 3 Credit Hours

Select 3 credit hours from one of the following courses.

- GEOG 497 - Undergraduate Research in Geography **Credits:** 1-3
- GEOG 610 - Geography Internship **Credits:** 1-6

BS Natural and Quantitative Restricted Elective: 3 - 5 Credit Hours

Select one course in the following, at any level

Natural Science course Credits: 3-5

Select one natural science course at least three hours.

BS Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: 18-22 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Geography (BS)

Students of geography develop skills that prepare them for a variety of careers related to spatial analysis, environmental sustainability, natural resource management, urban and regional planning, international development, and more. They may pursue a traditional major in geography, a geography minor, or choose the geography-pre-planning option. The bachelor of science or the bachelor of arts degree may be earned. Students may choose an emphasis in areas such as governance and globalization, planning, or Geographic Information Science (GIS). Graduates pursue careers in conservation, energy, government, environmental protection, law, public policy, transportation, culture, and international affairs; and provide geographic expertise to a wide variety of public and private companies. Other concentrations may be developed to reflect the particular interests of a student, including but not limited to GIS.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 or other approved A&S orientation

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Geography and Geospatial Science**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for GEOG**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3] fulfilled by GEOG 100
- US Multicultural Overlay, 1 course **Credits**: [3]

Program

Foundation Courses 22 Credit Hours

Student must complete the following courses

- GEOG 100 - World Geography & Globalization **Credits:** 3
- GEOG 121 - Introductory Physical Geography: Earth Systems Science **Credits:** 3
- GEOG 122 - Introduction to Physical Geography: Earth Systems Science Laboratory **Credits:** 1
- GEOG 200 - Human Geography **Credits:** 3
- GEOG 302 - Cartography and Thematic Mapping **Credits:** 3
- GEOG 495 - Capstone Seminar in Geography **Credits:** 2
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- STAT 225 - Introduction to Statistics **Credits:** 3

Category Elective: 6-7 Credit Hours

Students choose one course from two of the following three categories:

Earth System Science

- GEOG 235 - Atmospheric Science **Credits:** 4
- GEOG 440 - Spatial Analysis of Surface Water Hydrology **Credits:** 3
- GEOG 445 - Biogeography **Credits:** 3
- GEOG 725 - Geography of Water Resources **Credits:** 3
- GEOG 735 - Topics in Climatology **Credits:** 3
- GEOG 745 - Topics in Biogeography **Credits:** 3
- GEOG 747 - Soil Mapping **Credits:** 3

- GEOG 761 - Human Impact on the Environment **Credits:** 3
- GEOL 520 - Geomorphology **Credits:** 3

Human Environmental Interaction

- GEOG 335 - European Landscapes **Credits:** 3
- GEOG 340 - Natural Resources **Credits:** 3
- GEOG 370 - Environmental Justice **Credits:** 3
- GEOG 460 - Human Dimensions of Global Change **Credits:** 3
- GEOG 600 - Mountain Geography **Credits:** 3
- GEOG 718 - Geography of Public Lands **Credits:** 3
- GEOG 720 - Geography of Land Use **Credits:** 3
- GEOG 722 - Geographies of International Conservation **Credits:** 3
- GEOG 725 - Geography of Water Resources **Credits:** 3
- GEOG 761 - Human Impact on the Environment **Credits:** 3

Human/Regional Geography

- GEOG 300 - Geography of Tourism **Credits:** 3
- GEOG 310 - Geography of Kansas **Credits:** 3
- GEOG 332 - Introduction to China **Credits:** 3
- GEOG 335 - European Landscapes **Credits:** 3
- GEOG 450 - Geography of Economic Behavior **Credits:** 3
- GEOG 500 - Geography of the United States **Credits:** 3
- GEOG 505 - South Asian Civilizations **Credits:** 3
- GEOG 510 - Geography of the American West **Credits:** 3
- GEOG 620 - Mexico, Central America, and Caribbean **Credits:** 3
- GEOG 622 - Geography of South America **Credits:** 3
- GEOG 660 - Geography of East Asia/China **Credits:** 3
- GEOG 690 - Historical Geography of the United States **Credits:** 3
- GEOG 750 - Urban Geography **Credits:** 3
- GEOG 780 - Cultural Geography **Credits:** 3

Geography Electives: 12 Credit Hours

12 Credit Hours of any GEOG course, or GEOL 520. Courses may not double count for any of the above requirements.

BS Natural and Quantitative Restricted Electives: 6-9 Credit Hours

One course in each of the following at any level

Natural Science course Credits: 3-5 Credit Hours

GEOG 121 may count if it is not used to fulfill K-State Core

Quantitative course Credits: 3-4

STAT 225 may count if it is not used to fulfill K-State Core

BS Arts, Humanities, and Social Sciences Restricted Electives: 3 Credit Hours

Fine Arts or Humanities: Any course or combination of courses: 3 Credit Hours

Free Electives: 23-27 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Minor

Geography Minor

Program requirements

- At least two additional geography courses at the 400 level and above **Credits:** 6
- GEOG 100 - World Geography & Globalization **Credits:** 3
  or
- GEOG 200 - Human Geography **Credits:** 3
- GEOG 121 - Introductory Physical Geography: Earth Systems Science **Credits:** 3
- GEOG 122 - Introduction to Physical Geography: Earth Systems Science Laboratory **Credits:** 1
- GEOG 302 - Cartography and Thematic Mapping **Credits:** 3

Total credit hours: (16)

Undergraduate Certificate

Geographic Information Systems Undergraduate Certificate

The undergraduate certification in geographic information systems, as distinct from the minor in geography, is focused on meeting the needs of students who want to acquire grounding in geospatial analytical tools (cartography, remote sensing, and GIS). The certificate helps students prepare for entry-level positions in the private sector or government.

Students must earn a minimum GPA of 3.0 for courses within the certificate program to qualify for the certificate.

Certification requirements (18 credit hours)

- One additional class with 50 percent or more GIS content **Credits:** 3
- GEOG 302 - Cartography and Thematic Mapping **Credits:** 3
- GEOG 508 - Geographic Information Systems I **Credits:** 4
- GEOG 602 - Computer Mapping and Geographic Visualization **Credits:** 3
- GEOG 605 - Remote Sensing of the Environment **Credits:** 3

- GEOG 608 - Geographic Information Systems II **Credits:** 3

Other Program Choices

Geographic Information Science and Technology (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
CC 110 - Introduction to Computing	2	
CC 111 - Elements of Computer Programming	1	
COMM 106 - Public Speaking I **OR**	3	**KSC 020**
COMM 109 - Public Speaking 1A, Honors	3	**KSC 020**
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 205 - General Calculus **OR**	3	**KSC 030**
MATH 220 - Analytic Geometry and Calculus I	4	
Social and Behavioral Sciences Requirement	3	**KSC 050**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 16		
Semester 2		
CC 210 - Fundamental Computer Programming Concepts	4	
STAT 225 - Introduction to Statistics **OR**	3	
STAT 240 - Biometrics I	3	
Arts and Humanities Requirement	3	**KSC 060**
Social and Behavioral Sciences Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		

Second Year		
Semester 1		
GEOG 302 - Cartography and Thematic Mapping	3	
CC 120 - Web Page Development **OR**	3	
CMST 135 - Web Fundamentals	3	
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
STAT 341 - Biometrics II **OR**	3	
MATH 221 - Analytic Geometry and Calculus II	4	
Natural and Physical Sciences Requirement	4	**KSC 040**
Total Credits: 16		
Semester 2		
GEOG 508 - Geographic Information Systems I	4	
CC 310 - Data Structures and Algorithms I	3	
Global Perspectives Overlay	3	
Arts and Humanities Requirement	3	**KSC 060**
Non-Quantitative Social Sciences Elective	3	
Total Credits: 16		
Third Year		
Semester 1		
GEOG 602 - Computer Mapping and Geographic Visualization	3	
GEOG 605 - Remote Sensing of the Environment	3	

CC 315 - Data Structures and Algorithms II	3	
Ethical Reasoning Overlay	3	
Natural\Physical Science Elective	3	
Total Credits: 15		
Semester 2		
GEOG 608 - Geographic Information Systems II	3	
Arts\Humanities Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Program Elective	3	
Program Elective	3	
Total Credits: 15		
Fourth Year		
Semester 1		
GEOG 728 - Programming for Geographic Analysis	3	
GEOG 497 - Undergraduate Research in Geography **OR**	1-3	
GEOG 610 - Geography Internship	1-6	
U.S. Multicultural Overlay	3	
Program Elective	3	
Program Elective	2	
Total Credits: 14		
Semester 2		
GEOG 712 - Internet GIS and Distributed Geographic Information Services	3	

GEOG 705 - Thematic Remote Sensing **OR**	3	
GEOG 706 - Biophysical Remote Sensing **OR**	3	
GEOG 707 - Remote Sensing of Water	3	
Program Elective		
Program Elective		
Total Credits: 12		
Total Program Hours: 120		

Geography (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
GEOG 100 - World Geography & Globalization	3	
GEOG 121 Introductory Physical Geography: Earth Systems Science	3	**KSC 040**
GEOG 122 - Introduction to Physical Geography: Earth Systems Science Laboratory	1	**KSC 040**
Arts & Humanities Requirement	3	**KSC 060**
Social & Behavioral Sciences Requirement	3	**KSC 050**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 17		
Semester 2		
ENGL 200 -Expository Writing II	3	**KSC 010**
COMM 106 - Public Speaking I	3	**KSC 020**

GEOG 200 - Human Geography	3	
STAT 225 -Introduction to Statistics	3	**KSC 030**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Second Year		
Semester 1		
GEOG 302 -Cartography and Thematic Mapping	3	
GEOG Natural Science with Prequisite (GEOG 440, GEOG 445, GEOG 535, GEOG 735, or GEOG 740)	3-4	
Natural & Physical Sciences Requirement	4	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
A&S BA Foreign Language	4	
Total Credits: 17-18		
Semester 2		
GEOG 508 - Geographic Information Systems I	4	
Social & Behavioral Sciences Requirement	3	**KSC 050**
A&S BA Outside Concentration	3	
A&S BA Foreign Language	4	
Total Credits: 14		
Third Year		
Semester 1		
Human Geography Elective	3	
A&S BA Fine Arts	3	

A&S BA Outside Concentration	3	
A&S BA Ethical Reasoning	3	
A&S BA Foreign Language	3	
Total Credits: 15		
Semester 2		
Human Geography Elective	3	
A&S BA Outside Concentration	3	
GEOG Careers	3	
A&S BA Ethical Reasoning	3	
A&S BA Foreign Language	3	
Total Credits: 15		
Fourth Year		
Semester 1		
GEOG Elective	3	
GEOG Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
A&S BA Humanities	3	
A&S BA US Multi-Cultural Overlay	3	
Total Credits: 15		
Semester 2		
GEOG Elective	3	
GEOG Elective	3	

GEOG Elective	3	
GEOG Elective	3	
Total Credits: 12		
Total Program Hours: 120		

Geography (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
GEOG 100 - World Geography & Globalization	3	**KSC 050**
GEOG 121 -Introductory Physical Geography: Earth Systems Science	3	
GEOG 122 - Introduction to Physical Geography: Earth Systems Science Laboratory	1	
Arts & Humanities Requirement	3	**KSC 060**
Social & Behavioral Sciences Requirement	3	**KSC 050**
DAS 101 -Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 17		
Semester 2		
ENGL 200 - Expository Writing II	3	**KSC 010**
COMM 106 - Public Speaking I	3	**KSC 020**
GEOG 200 - Human Geography (A&S Global Perspectives Overlay)	3	
STAT 225 - Introduction to Statistics	3	**KSC 030**
Arts & Humanities Requirement	3	**KSC 060**

Total Credits: 15		
Second Year		
Semester 1		
Natural & Physical Sciences Requirement	4	**KSC 040**
GEOG 302 -Cartography and Thematic Mapping (Non-quantitative BS Social Science Requirement)	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
GEOG Natural Science with Prerequisite (GEOG 440, GEOG 445, GEOG 535, GEOG 735, or GEOG 740)	3-4	
Outside Concentration	3	
Total Credits: 16-17		
Semester 2		
GEOG 508 - Geographic Information Systems I	4	
US Multicultural Overlay	3	
Outside Concentration	3	
BS Quantitative	3	
GEOG Elective	3	
Total Credits: 16		
Third Year		
Semester 1		
GEOG 445 - Biogeography	3	
GEOG 335 - European Landscapes	3	
GEOG Elective	3	
BS Fine Arts/Humanities	3	

Outside Concentration	3	
Total Credits: 15-16		
Semester 2		
GEOG 495 - Capstone Seminar in Geography	2	
BS Ethical Reasoning (A&S Ethical Reasoning Overlay)	3	
GEOG Elective (700+)	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 14		
Fourth Year		
Semester 1		
GEOG Electives	15	
Total Credits: 15		
Semester 2		
GEOG Electives	12	
Total Credits: 12		
Total Program Hours: 120-121		

Geology

Matthew Brueseke, Interim Head

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785-532-6724
www.k-state.edu/geology

Geology is often defined as the study of the physical aspects of the Earth--it's composition, structure and the processes that have shaped it--past, present and future. But it's much more than that. The study of the earth involves chemistry, physics, mathematics and biology, along with history, logic and art. Professional geologists also utilize creativity, ingenuity and 3-D visualization, as well as speaking and writing skills. In short, a geology career can utilize all your talents.

It's also a good time to be a geology major! According to the Bureau of Labor Statistics, the number of geoscience jobs is expected to increase by 16% over the next decade, significantly faster than average. In other words, there are expected to be more jobs than people. Mean annual salaries for geoscience occupations also pay well above the national average for life, physical, and social sciences. Job opportunities, salaries, and opportunities for advancement are significantly enhanced with a Master of Science degree, and we strongly encourage students to consider this route.

The geology faculty possess a wide range of expertise in both traditional and cross-disciplinary areas of geosciences and are committed to excellence in their teaching. The department offers programs leading to the BS and BA degrees in geology, with tracks in Geology, Petroleum Geosciences and Environmental Geosciences. In addition to the undergraduate program, the department offers a MS degree: our graduate program currently has approximately 30 students.

The Department of Geology is also partnered with the Division of Biology and the Departments of Agronomy and Geography to offer a BS degree in Environmental Science. The degree includes a wide range of Geology courses and allows students to specialize in Water Resources, Earth Systems, Conservation and Sustainability, Analytical and Geospatial Methods, and Agroecosystems. For detailed plans of study, consult the Environmental Science Program Administrator, Chloe Wallace (chloewallace@ksu.edu) or the Geology Department head.

We also cooperate with the College of Education to offer an **Earth Science (EDESC [Inactive]) option for high school teachers**. In addition to the general requirements for the BA or BS degree, the teacher licensure requirements must be completed. See the College of Education for more information about teacher licensure requirements and details about earth and space science as a Second Teaching Field in Secondary Education.

Minors in both geology (18-20 credit hours) and geophysics (16 credit hours) are also possible.

Students in geology must have an overall average grade of C (not a C grade in each course) in their geology, other natural science, mathematics, and computer science courses.

Bachelor of Arts

Geology (BA)

A wide range of geoscience subdisciplines exist that provide exciting and viable career options, e.g. hydrology, energy and minerals resources, engineering geology, exploration seismic and near-surface geophysics, environmental geology and geochemistry, igneous and metamorphic petrology, structural geology, geochronology, sedimentary geology, biomineralization and biogeochemistry – just to name a few. Geology majors should consult their advisors about elective courses to meet their career and educational needs.

Kansas State University Core: 34-36 Credit Hours

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The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional

general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Geology,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for GEOL**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Support Coursework: 11 - 12 Credit Hours

- CHM 110 - General Chemistry **Credits:** 3
- CHM 111 - General Chemistry Laboratory **Credits:** 1
- PHYS 113 - General Physics I **Credits:** 4
- STAT 225 - Introduction to Statistics **Credits:** 3
  OR
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Geology Foundation: 25 Credit Hours

- GEOL 100 - Earth in Action **Credits:** 3
- GEOL 200 - Earth Through Time **Credits:** 3
- GEOL 103 - Geology Laboratory **Credits:** 1
- GEOL 360 - Quantitative Methods in Geoscience **Credits:** 3
- GEOL 502 - Mineralogy **Credits:** 3
- GEOL 503 - Petrology **Credits:** 3
- GEOL 530 - Structural Geology **Credits:** 3
- GEOL 560 - Field Methods **Credits:** 3
- GEOL 630 - Sedimentology and Stratigraphy **Credits:** 3

Geology Electives: 15 Credit Hours

Choose five courses (for a total of 15 CH) from those listed below

Any GEOL level 500 to 799

- GEOL 305 - Sustainable Earth Resources **Credits:** 3

OR

BA Arts, Humanities, and Social Sciences Restricted Electives: 9 Credit Hours

3 credit hours in each of the following, with at least 6 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 0-13 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Bachelor of Science

Geology (BS)

A wide range of geoscience subdisciplines exist that provide exciting and viable career options, e.g. hydrology, energy and minerals resources, engineering geology, exploration seismic and near-surface geophysics, environmental geology and geochemistry, igneous and metamorphic petrology, structural geology, geochronology, sedimentary geology, biomineralization and biogeochemistry – just to name a few. Geology majors should consult their advisors about elective courses to meet their career and educational needs. Quantitative skills and computer literacy are essential for all geologists and are strongly encouraged. Students intending to earn advanced degrees should visit with the departmental graduate advisor concerning entrance requirements of graduate programs.

Kansas State University Core: 34-36 Credit Hours

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General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Geology**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for GEOL**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Required Coursework: 19-24 credit hours

MATH 220 may be fulfilled as part of the K-State Core

- CHM 210 - Chemistry I **Credits:** 4
  OR
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
  OR
- CHM 250 - Honors Chemistry II **Credits:** 5
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
  OR
- GEOL 360 - Quantitative Methods in Geoscience **Credits:** 3
- PHYS 113 - General Physics I **Credits:** 4
  OR
- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 114 - General Physics II **Credits:** 4
  OR
- PHYS 214 - Engineering Physics II **Credits:** 5

Geology Foundation: 25 credit hours

- GEOL 100 - Earth in Action **Credits:** 3
- GEOL 103 - Geology Laboratory **Credits:** 1
- GEOL 200 - Earth Through Time **Credits:** 3
- GEOL 502 - Mineralogy **Credits:** 3
- GEOL 503 - Petrology **Credits:** 3
- GEOL 530 - Structural Geology **Credits:** 3

- GEOL 560 - Field Methods **Credits:** 3
- GEOL 630 - Sedimentology and Stratigraphy **Credits:** 3
- GEOL 680 - Field Geology **Credits:** 3

General Earth Science: 15 credit hours

Group I: 3 credit hours

Choose one course (3 credits) from the following:

- GEOL 605 - Introduction to Aqueous Geochemistry **Credits:** 3
- GEOL 640 - Introduction to Geophysics **Credits:** 3

Group II: 3 credit hours

Choose one course (3 credits) from the following:

- GEOL 601 - Economic Geology **Credits:** 3
- GEOL 631 - Petroleum Geology **Credits:** 3
- GEOL 642 - Field Geophysics **Credits:** 3

Group III: 3 credit hours

Chose one course (3 credits) from the following:

- GEOL 520 - Geomorphology **Credits:** 3
- GEOL 611 - Hydrogeology **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3

Group IV: 6 credit hours

Choose two courses (6 credits) from GEOL at 500-799 level

BS Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: 4 - 11 credit hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

A&S common degree requirements satisfied by Required Coursework, and BS Arts, Humanities, and Social Sciences Restricted Electives

Geology - Energy and Mineral Resources (BS)

Focused on exploration and extraction of energy and mineral resources. Great choice for students interested in working in the oil and gas industry or mining industry.

Kansas State University Core: 34-36 Credit Hours

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The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Geology** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for GEOL**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]

- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Required Coursework: 19 - 24 credit hours

MATH 220 may be fulfilled as part of the K-State Core

- CHM 210 - Chemistry I **Credits:** 4
  OR
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
  OR
- CHM 250 - Honors Chemistry II **Credits:** 5
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
  OR
- GEOL 360 - Quantitative Methods in Geoscience **Credits:** 3
- PHYS 113 - General Physics I **Credits:** 4
  OR
- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 114 - General Physics II **Credits:** 4
  OR
- PHYS 214 - Engineering Physics II **Credits:** 5

Geology Foundations: 25 credit hours

- GEOL 100 - Earth in Action **Credits:** 3
- GEOL 200 - Earth Through Time **Credits:** 3
- GEOL 103 - Geology Laboratory **Credits:** 1
- GEOL 502 - Mineralogy **Credits:** 3
- GEOL 503 - Petrology **Credits:** 3
- GEOL 530 - Structural Geology **Credits:** 3
- GEOL 560 - Field Methods **Credits:** 3
- GEOL 630 - Sedimentology and Stratigraphy **Credits:** 3
- GEOL 680 - Field Geology **Credits:** 3

Energy and Mineral Resources: 15 credit hours

Group I: 3 credit hours

Choose one course (3 credits) from the following:

- GEOL 605 - Introduction to Aqueous Geochemistry **Credits:** 3
- GEOL 640 - Introduction to Geophysics **Credits:** 3

Group II: 6 credit hours

Choose two courses (6 credits) from the following:

- GEOL 601 - Economic Geology **Credits:** 3
- GEOL 631 - Petroleum Geology **Credits:** 3
- GEOL 642 - Field Geophysics **Credits:** 3

Group III: 6 credit hours

Choose two courses (6 credits) from GEOL at 500-799 level

BS Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: 4 - 11

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Minimum Hours Required for Graduation: 120

Geology - Environmental Geosciences (BS)

Focused on processes that shape the landscape and control the quality and availability of water and soil resources. Ideal for students interested in working in the environmental industry.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Geology** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for GEOL**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Required Coursework: 19 - 24 credit hours

MATH 220 may be fulfilled as part of the K-State Core

- CHM 210 - Chemistry I **Credits:** 4
  OR
- CHM 220 - Honors Chemistry I **Credits:** 5
- CHM 230 - Chemistry II **Credits:** 4
  OR
- CHM 250 - Honors Chemistry II **Credits:** 5
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
  OR
- GEOL 360 - Quantitative Methods in Geoscience **Credits:** 3
- PHYS 113 - General Physics I **Credits:** 4
  OR

- PHYS 213 - Engineering Physics I **Credits:** 5
- PHYS 114 - General Physics II **Credits:** 4
  OR
- PHYS 214 - Engineering Physics II **Credits:** 5

Geology Foundation: 25 credit hours

- GEOL 100 - Earth in Action **Credits:** 3
- GEOL 103 - Geology Laboratory **Credits:** 1
- GEOL 200 - Earth Through Time **Credits:** 3
- GEOL 502 - Mineralogy **Credits:** 3
- GEOL 503 - Petrology **Credits:** 3
- GEOL 530 - Structural Geology **Credits:** 3
- GEOL 560 - Field Methods **Credits:** 3
- GEOL 630 - Sedimentology and Stratigraphy **Credits:** 3
- GEOL 680 - Field Geology **Credits:** 3

Environmental Earth Science: 15 credit hours

Group I: 3 credit hours

Choose one course (3 credits) from the following:

- GEOL 605 - Introduction to Aqueous Geochemistry **Credits:** 3
- GEOL 640 - Introduction to Geophysics **Credits:** 3

Group II: 6 credit hours

Choose two courses (6 credits) from the following:

- GEOL 520 - Geomorphology **Credits:** 3
- GEOL 611 - Hydrogeology **Credits:** 3
- GEOL 650 - Geomicrobiology **Credits:** 3

Group III: 6 credit hours

Choose two courses (6 credits) from GEOL at 500-799 level

BS Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: 4 - 11

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Minor

Exploration and Environmental Geophysics Minor

Program requirements

- GEOL 100 - Earth in Action **Credits:** 3
- GEOL 103 - Geology Laboratory **Credits:** 1

- GEOL 520 - Geomorphology **Credits:** 3
  or
- GEOL 630 - Sedimentology and Stratigraphy **Credits:** 3

- GEOL 640 - Introduction to Geophysics **Credits:** 3
- GEOL 642 - Field Geophysics **Credits:** 3
- GEOL 742 - Seismic Data Interpretation **Credits:** 3

Total credit hours: (16)

Geology Minor

Program requirements

- GEOL 100 - Earth in Action **Credits:** 3
- GEOL 103 - Geology Laboratory **Credits:** 1
- GEOL 502 - Mineralogy **Credits:** 3

Geology electives

- At least three additional courses at the 500 level or above (excluding GEOL 512) **Credits:** 9

Total credit hours: (16)

Other Program Choices

Geology (BA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
CHM 110 - General Chemistry **AND**	3	**KSC 040**
CHM 111 - General Chemistry Laboratory	1	**KSC 040**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
GEOL 100 - Earth in Action	3	
GEOL 103 - Geology Laboratory	1	
Foreign Language Level 1 Course (Satifies A&S BA Foreign Language Requirement (Opt. 1))	4	
Total Credits: 13		
Semester 2		
ENGL 100 - Expository Writing I	3	**KSC 010**
GEOL 200 - Earth Through Time	3	
STAT 225 - Introduction to Statistics	3	**KSC 030**
Foreign Language Level 2 Course (Satifies A&S BA Foreign Language Requirement (Opt. 1))	4	
Social and Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**

GEOL 502 - Mineralogy (Satisfies A&S BA Natural/Quantitative Science Requirement)	3	
PHYS 113 - General Physics I	4	
Foreign Language Level 3 Course: Satifies A&S BA Foreign Language Requirement (Opt. 1)	3	
Social and Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Semester 2		
GEOL 503 - Petrology	3	
COMM 106 - Public Speaking I	3	**KSC 020**
Foreign Language Level 4 Course (Satifies A&S BA Foreign Language Requirement (Opt. 1))	3	
Outside Concentration	3	
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Junior Year		
Semester 1		
GEOL 360 - Quantitative Methods in Geoscience (Satisfies A&S Natural/Quantitative BA Requirement)	3	
GEOL 530 - Structural Geology	3	
Outside Concentration	3	
Arts and Humanities Requirement	3	**KSC 060**
Global Perspectives Overlay Course	3	
Total Credits: 15		
Semester 2		
GEOL 560 - Field Methods	3	

GEOL 630 -Sedimentology and Stratigraphy	3	
Outside Concentration	3	
Humanities Course	3	
GEOL Elective	3	
Total Credits: 15		
Fourth Year		
Semester 1		
Non-Quantitative Social Science Requirement	3	
US Multicultural Overlay	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
GEOL Elective	3	
GEOL Elective	3	
Total Credits: 15		
Semester 2		
Fine Arts Restrictive Elective	3	
Ethical Reasoning Overlay	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
GEOL Elective	3	
GEOL Elective	3	
Total Credits: 15		
Total Program Hours: 120		

Geology (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
GEOL 100 - Earth in Action	3	
GEOL 103 - Geology Laboratory	1	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
CHM 210 - Chemistry I	4	**KSC 040**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 13		
Semester 2		
GEOL 200 - Earth Through Time	3	
CHM 230 - Chemistry II	4	
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 13		
Second Year		
Semester 1		
GEOL 502 - Mineralogy	3	
GEOL 360 - Quantitative Methods in Geoscience	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
PHYS 113 - General Physics I	4	
Social & Behavioral Science Requirement	3	**KSC 050**
Total Credits: 16		

Semester 2		
GEOL 503 -Petrology	3	
Outside Concentration	3	
Arts & Humanities Requirement	3	**KSC 060**
Ethical Reasoning Overlay	3	
Social & Behavioral Science Requirement	3	**KSC 050**
Total Credits: 15		
Third Year		
Semester 1		
GEOL 530 - Structural Geology	3	
GEOL 605 - Introduction to Aqueous Geochemistry	3	
Non-Quantitative Social Science	3	
Arts & Humanities Requirement	3	**KSC 060**
Outside Concentration	3	
Total Credits: 15		
Semester 2		
GEOL 630 - Sedimentology and Stratigraphy	3	
GEOL 560 - Field Methods	3	
PHYS 114 - General Physics II	4	
Outside Concentration	3	
Free Elective	2	
Total Credits: 15		

Semester 3		
GEOL 680 - Field Geology	3	
Total Credits: 3		
Fourth Year		
Semester 1		
GEOL 611 - Hydrogeology	3	
GEOL 740 - Regional Geology	3	
US Multicultural Overlay	3	
Fine Arts or Humanities	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
GEOL 642 - Field Geophysics	3	
GEOL 650 - Geomicrobiology	3	
Global Perspectives Overlay	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective	3	
Total Credits: 15		
Total Program Hours: 120		

Geology - Energy and Mineral Resources (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
GEOL 100 - Earth in Action	3	
GEOL 103 - Geology Laboratory	1	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
CHM 210 - Chemistry I	4	**KSC 040**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Hours: 13		
Semester 2		
GEOL 200 - Earth Through Time	3	
CHM 230 - Chemistry II	4	
ENGL 100 - Expository Writing I **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	
COMM 106 - Public Speaking I	3	**KSC 020**
Total Credits: 13		
Second Year		
Semester 1		
GEOL 502 - Mineralogy	3	
GEOL 360 - Quantitative Methods in Geoscience	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
PHYS 113 - General Physics I	4	
Social & Behavioral Science Requirement	3	**KSC 050**

Total Credits: 16		
Semester 2		
GEOL 503 - Petrology	3	
Outside Concentration	3	
Arts & Humanities Requirement	3	**KSC 060**
Ethical Reasoning Overlay	3	
Total Credits: 15		
Third Year		
Semester 1		
GEOL 530 - Structural Geology	3	
GEOL 640 - Introduction to Geophysics	3	
Social & Behavioral Science Requirement - A&S Non-Quantitative Social Science	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
Outside Concentration	3	
Total Credits: 15		
Semester 2		
GEOL 560 -Field Methods	3	
GEOL 630 - Sedimentology and Stratigraphy	3	
PHYS 114 - General Physics II	4	
Outside Concentration	2	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		

Fourth Year		
Semester 1		
GEOL 601 - Economic Geology	3	
GEOL 611 - Hydrogeology	3	
US Multicultural Overlay	3	
Fine Arts or Humanities Course	3	
Free Elective	3	
Total Credits: 15		
Semester 2		
GEOL 540 - Geologic Record of Climate Change	3	
GEOL 642 - Field Geophysics	3	
Global Perspectives Overlay	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective	3	
Total Credits: 15		
Total Program Hours: 120		

Geology - Environmental Geosciences (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
GEOL 100 - Earth in Action	3	

GEOL 103 - Geology Laboratory	1	
CHM 210 - Chemistry I	4	**KSC 040**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 13		
Semester 2		
GEOL 200 - Earth Through Time	3	
CHM 230 - Chemistry II	4	
ENGL 100 - Expository Writing I **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	
COMM 106 -Public Speaking I	3	**KSC 020**
Total Credits: 13		
Second Year		
Semester 1		
GEOL 502 - Mineralogy	3	
GEOL 360 - Quantitative Methods in Geoscience	3	
PHYS 113 - General Physics I	4	
ENGL 200 - Expository Writing II	3	**KSC 010**
Social & Behavioral Science Requirement	3	**KSC 050**
Total Credits: 16		
Semester 2		
GEOL 503 - Petrology	3	

Outside Concentration	3	
Arts & Humanities Requirement	3	**KSC 060**
Ethical Reasoning Overlay	3	
Social & Behavioral Science Requirement	3	**KSC 050**
Total Credits: 15		
Third Year		
Semester 1		
GEOL 530 - Structural Geology	3	
GEOL 605 - Introduction to Aqueous Geochemistry	3	
Non-Quantitative Social Science	3	
Arts & Humanities Requirement	3	**KSC 060**
Outside Concentration	3	
Total Credits: 15		
Semester 2		
GEOL 630 -Sedimentology and Stratigraphy	3	
GEOL 560 - Field Methods	3	
PHYS 114 - General Physics II 4		
Outside Concentration	3	
Free Elective	2	
Total Credits: 15		
Semester 3		
GEOL 680 - Field Geology	3	

Fourth Year		
Semester 1		
GEOL 520 - Geomorphology	3	
GEOL 540 - Geologic Record of Climate Change	3	
US Multicultural Overlay	3	
Fine Arts or Humanities Course	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
GEOL 512 - Earth Science	3	
GEOL 650 - Geomicrobiology	3	
Global Perspectives Overlay	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective	3	
Total Credits: 15		
Total Program Hours: 120		

History

Andrew Orr, Chair

117D Calvin Hall
785-532-6730
E-mail: hoffice@k-state.edu
www.k-state.edu/history

The history program appeals not only to majors but to all students seeking a rewarding educational experience. The curriculum includes courses in traditional and nontraditional fields of interest taught by a nationally respected faculty willing to try new and

innovative teaching techniques. A program of speakers, seminars, colloquia, and films supplements the curriculum to stimulate student interest in the discipline of history and how it is expressed.

Undergraduate advisors in the history department maintain up-to-date information regarding requirements of graduate and professional schools and relevant course offerings in history and other departments.

Transfer students

Normally the history department will accept transfer credit for history courses taught at accredited institutions of higher education. In the case of students transferring from community colleges, only courses equivalent to those taught at the freshman-sophomore level at K-State (courses numbered HIST 100 through HIST 299) may receive credit for the history major.

Bachelor of Arts

History (BA)

The history program appeals not only to majors but to all students seeking a rewarding educational experience. The curriculum includes courses in traditional and nontraditional fields of interest taught by a nationally respected faculty willing to try new and innovative teaching techniques. A program of speakers, seminars, colloquia, and films supplements the curriculum to stimulate student interest in the discipline of history and how it is expressed.

Double majors.

Students majoring in two or more programs may count up to two courses from their other major towards their History program. See curriculum for details.

Double majors and teacher licensure.

Students majoring in history may also prepare for teacher licensure in Secondary Education-Social Sciences (EDSST) Teacher Licensure program. In addition to the adjustment allowed for all double majors, students in this program may be able to count some of their Education requirements towards restricted electives. They should select their courses in consultation with advisors in both the history department and the College of Education to ensure that they meet the requirements of both programs. See the Department of Curriculum and Instruction for social science licensure requirements.

Advanced program in History.

Certain highly qualified students may elect to define their own programs for the major in consultation with a committee of three faculty members chosen by the student and approved by the department chair. This program of study should be broadly conceived, not narrowly circumscribed. This option is available to students seeking a BA or BS degree in history. To enter this program a student must have a GPA of 3.5 at the end of the freshman year or later, submit two letters of recommendation and a statement of purpose, and receive approval from the undergraduate studies committee.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for

institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except for History**,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for HIST) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Minimum Total Credits for Program Requirements: 10

Program

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Professional courses for History Major: 6 Credit Hours

- HIST 300 - Introduction to Historical Thinking **Credits:** 3

- HIST 586 - Advanced Seminar in History **Credits:** 3

Upper-division courses: 21 Credit Hours

NOTE:

At least two of the 300 level or above courses must have primary chronological emphasis prior to 1800

Courses from 300 level or above must also include at least one course from each of the following three areas: U.S., European, and neither US nor European history.

Chronological Emphasis and Areas Lists can be cound here: https://www.k-state.edu/history/academics/undergrad/Course_Distributions.html

Upper-division courses (301-799) 9 Credit Hours

Upper-division courses (400-799) 12 credits

Chose 4 courses

History Electives: 9 Credit Hours

Choose 3 courses (9 Credit Hours) of HIST courses at any level.

No more than 3 of the 9 Credit Hours may be from HIST 200-Topics in History for Freshman and Sophomores.

BA Arts, Humanities, and Social Sciences Requirement: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts: Credits: 3

Non-Quantitative Social Science: Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 12-25 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Bachelor of Science

History (BS)

The history program appeals not only to majors but to all students seeking a rewarding educational experience. The curriculum includes courses in traditional and nontraditional fields of interest taught by a nationally respected faculty willing to try new and innovative teaching techniques. A program of speakers, seminars, colloquia, and films supplements the curriculum to stimulate student interest in the discipline of history and how it is expressed.

Double majors.

Students majoring in two or more programs may count up to two courses from their other major towards their History program. See curriculum for details.

Double majors and teacher licensure.

Students majoring in history may also prepare for teacher licensure in Secondary Education-Social Sciences (EDSST) Teacher Licensure program. In addition to the adjustment allowed for all double majors, students in this program may be able to count some of their Education requirements towards restricted electives. They should select their courses in consultation with advisors in both the history department and the College of Education to ensure that they meet the requirements of both programs. See the Department of Curriculum and Instruction for social science licensure requirements.

Advanced program in History.

Certain highly qualified students may elect to define their own programs for the major in consultation with a committee of three faculty members chosen by the student and approved by the department chair. This program of study should be broadly

conceived, not narrowly circumscribed. This option is available to students seeking a BA or BS degree in history. To enter this program a student must have a GPA of 3.5 at the end of the freshman year or later, submit two letters of recommendation and a statement of purpose, and receive approval from the undergraduate studies committee.

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General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except History OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for HIST) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Program

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Professional courses for History Major: 6 Credit Hours

- HIST 300 - Introduction to Historical Thinking **Credits:** 3
- HIST 586 - Advanced Seminar in History **Credits:** 3

Upper-division courses: 21 Credit Hours

Upper-division courses (HIST 301-799) 9 credits

Upper-division courses (HIST 400-799) 12 credits

NOTE:

At least two of the above courses must have primary chronological emphasis prior to 1800

The above courses must include at least one course from each of the following three areas: U.S., European, and neither US nor European history.

Chronological Emphasis and Areas Lists can be cound here: https://www.k-state.edu/history/academics/undergrad/Course_Distributions.html

Additional courses at any level: 9 Credit Hours

No more than 3 of these 9 credits may be from HIST 200 - Topics in History for Freshmen and Sophomores.

BS Natural and Quantitative Requirements: 12-15 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course Credits: 3-5

Quantitative course Credits: 3-4

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

BS Arts, Humanities, and Social Sciences Requirements: 3 Credit Hours

3 credit hours of Social Sciences (non-quantitative) at any level.

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: 25 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Minor

East Asian Studies Minor

David Graff, East Asian Studies Coordinator
Department of History
314 Eisenhower Hall
785-532-0366
Fax: 785-532-7004
E-mail: dgraff@ksu.edu
www.k-state.edu/history

The East Asian Studies minor program is designed to provide students at K-State with a knowledge of and appreciation for East Asia's history, culture, economy, and natural environment. The East Asian Studies minor is offered in the College of Arts & Sciences, though faculty from other colleges may participate and offer related courses that contribute to the mission of the program.

Students must have a GPA of 2.0 or better to qualify for the East Asian Studies minor. To complete the minor, they will need twenty credit hours of designated course work, of which at least eight credit hours must be for the required language courses and the remaining credit hours for electives in various subject areas.

Students Should earn a grade of C or above for the courses to be considered toward the minor. Transfer credits for similar courses from other institutions may be accepted as part of the student's program of study, subject to the program director's approval. Courses taken for the minor may be used to satisfy the general requirements of a major curriculum, including free electives.

Required Language Courses (8 credit hours)

The minor requires that each student achieve mastery of Chinese or Japanese at the intermediate level, which is defined for the purpose of this minor as the level of Japanese III and IV or Chinese III and IV. Students are expected to have taken Japanese I and II (JAPAN 191 and JAPAN 192, or their equivalents) or Chinese I and II (CHINE 101 and CHINE 200, or their equivalents) before they take the third and fourth levels of language classes. Native speakers of Japanese or Chinese, and students who can demonstrate language proficiency at the fourth semester level may be exempt from taking the language courses. In such cases, students, after consulting the program director, may take additional elective courses to fulfill the total credit hour requirements of the minor.

- CHINE 201 - Chinese III **Credits:** 4
  and
- CHINE 301 - Chinese IV **Credits:** 4
  or

- JAPAN 201 - Japanese III **Credits:** 4
  and
- JAPAN 301 - Japanese IV **Credits:** 4

Elective Courses (12 credit hours)

- ECON 507 - The Japanese Economy **Credits:** 3
- GEOG 331 - Introduction to Japan **Credits:** 3
- GEOG 332 - Introduction to China **Credits:** 3
- GEOG 660 - Geography of East Asia/China **Credits:** 3
- HIST 330 - History of East Asian Civilizations **Credits:** 3
- HIST 331 - Introduction to Japan **Credits:** 3
- HIST 332 - Introduction to China **Credits:** 3
- JAPAN 391 - Culture of Japanese Communication **Credits:** 3
- POLSC 511 - Contemporary Chinese Politics **Credits:** 3

Topic Courses

The following topics courses may also be used as electives, depending on the specific topic and subject to the approval of the academic director of the East Asian Studies minor.

- ARCH 715 - Topics in Architecture Seminar **Credits:** 3
- ART 695 - Topics in Art History **Credits:** 3
- EDCEP 786 - Topics in Counseling and Educational Psychology **Credits:** 1-3
- ENGL 580 - Selected World Literature **Credits:** 3
- HIST 598 - Topics in Non-Western History **Credits:** 1-3
- POLSC 791 - Topics in Political Science **Credits:** 3
  Other courses may be used as electives, as authorized at the discretion of the director.

Transfer policy

Courses taken at other institutions in the U.S. or abroad may be used to satisfy the language requirement and up to one-half of the elective requirement, subject to the approval of the EAS coordinator (and the Department of Modern Languages, in the case of language courses). Two elective courses totaling at least 6 credit hours must be taken at K-State.

History Minor

Requirements for a history minor consist of a minimum of 21 credit hours in history of which at least 15 must be at the 300 level or higher and a final cumulative GPA of 2.0 or better.

Program requirements

Requirements for a history minor consist of a minimum of 21 credit hours in history of which at least 15 must be at the 300 level or higher.

Total credit hours: (21)

Undergraduate Certificate

Grand Strategy Undergraduate Certificate

Interdisciplinary program encouraging students to think about grand strategy and develop real world skills rooted in historical knowledge and understanding. Its primary focus is on statecraft geared towards developing long-term foreign policies, but it also goes beyond this traditional definition and asks students to consider the grand strategies adopted by activists or humanitarian groups in order to challenge the established world order.

Required Courses: (4 Credit Hours)

Students will choose one of the following introductory courses: HIST 155 U.S. Military History Since 1775 or POLSC 145 World Politics.

All students enrolled in the certificate will enroll in HIST 400 Grand Strategy Simulation

- HIST 155 - Introduction to US Military History **Credits:** 3
  OR
- POLSC 145 - World Politics **Credits:** 3
- HIST 400 - Grand Strategy Simulation **Credits:** 1

Electives: (9 Credit Hours)

Students will choose 9 credit hours among the following selection of courses (including 3 credits in HIST and 3 credits in POLSC)

- GWSS 380 - Global Struggles for Feminist, Queer, and Trans Justice **Credits:** 3
- GWSS 405 - Resistance and Movements for Social Change **Credits:** 3
- HIST 311 - Race & US Foreign Relations **Credits:** 3
- HIST 333 - War and Conquest in Hispanic America **Credits:** 3
- HIST 363 - A World in Flames: Global World War II **Credits:** 3
- HIST 388 - Nazi Germany and the Holocaust **Credits:** 3
- HIST 510 - World War I **Credits:** 3
- HIST 526 - The American Revolution **Credits:** 3
- HIST 544 - From World Power to Superpower: US Foreign Relations since 1920 **Credits:** 3
- HIST 545 - War in the Twentieth Century **Credits:** 3
- HIST 593 - The Vietnam War **Credits:** 3
- HIST 595 - French Revolution, 1789-1815 **Credits:** 3
- PHYS 102 - Current Topics in the Physical World **Credits:** 3
- POLSC 343 - American Foreign Policy **Credits:** 3
- POLSC 540 - Global Security Threats **Credits:** 3
- POLSC 549 - International Defense Strategies **Credits:** 3

Total Hours Required: 13 Credit Hours

Other Program Choices

History (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
HIST 300 - Introduction to Historical Thinking	3	
History Elective - HIST 100-298, 301-585, 587-799	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
Social & Behavioral Sciences Requirement	3	**KSC 050**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 16		
Semester 2		
ENGL 200 - Expository Writing II	3	**KSC 010**
HIST Elective - HIST 100-298, 301-585, 587-799	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Natural Science Elective with MATH & STAT Pre-Req Elective **OR**	3	
Quantitative Elective with MATH & STAT Pre-Req Elective **OR**	3	
Social Science Elective with MATH & STAT Pre-Req Elective	3	
Total Credits: 15		
Second Year		
Semester 1		
COMM 106 - Public Speaking I **OR**	3	**KSC 020**
COMM 109 - Public Speaking 1A, Honors	3	**KSC 020**

HIST Elective 300 OR ABOVE - HIST 301-585, 587-799	3	
Natural & Physical Sciences Requirement	4	**KSC 040**
Second Language I	4	**KSC 060**
Free Elective	1	
Total Credits: 15		
Semester 2		
HIST Elective 300 or Above: HIST 301-585, 587-799; Europe Overlay	3	
HIST Elective 300 or Above: HIST 301-585, 587-799; Non-Western Overlay	3	
Second Language II	4	
Arts & Humanities Elective	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Third Year		
Semester 1		
HIST Elective 400 or Above - HIST 400-585, 587-799	3	
Second Language III	3	
Outside Concentration	3	
HIST Elective - HIST 100-298, 301-585, 587-799	3	
Non-Quantitative Social Science Elective - 300 level or above **OR**	3	
Course with pre-req is same area	3	
Total Credits: 15		
Semester 2		

HIST Elective - HIST 400-585, 587-799; Pre-1800 Overlay	3		
HIST Elective - HIST 400-585, 587-799; Pre-1800 Overlay	3		
Second Language IV	3		
Outside Concentration	3		
Free Elective	1		
Total Credits: 13			
Fourth Year			
Semester 1			
HIST 586 - Advanced Seminar in History	3		
Ethical Reasoning Overlay & Humanities Elective	3		
Natural Science Elective **OR**	3		
Quantitative Elective	3		
Fine Arts Elective **OR**	3		
Humanities Elective - 300 level or above **OR**	3		
Course with pre-req in same area	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
HIST Elective 400 or Above - HIST 400-585, 587-799	3		
Outside Concentration	3		
US Multicultural Overlay **OR**	3		
Free Elective	3		
Global Perspectives Overlay **OR**	3		

Free Elective	3		
Free Elective	3		
Total Credits: 15			
Total Program Hours: 120			

History (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
HIST 300 - Introduction to Historical Thinking	3		
HIST Elective - HIST 100-298, 301-585, 587-799	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
DAS 101 Discover, Create, and Thrive: Arts and Sciences Orientation	1		
Total Credits: 16			
Semester 2			
HIST Elective - HIST 100-298, 301-585, 587-79	3		
HIST Elective - HIST 301-585, HIST 587-799	3		
COMM 106 - Public Speaking I **OR**	3	**KSC 020**	
COMM 109 -Public Speaking 1A, Honors	3	**KSC 020**	
Natural & Physical Sciences Requirement	4	**KSC 040**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 16			

Second Year		
Semester 1		
HIST Elective - HIST 301-585, 587-799	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
Arts & Humanities Requirement	3	**KSC 060**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
HIST Elective - HIST 301-585, 587-799, Pre-1800 Overlay	3	
HIST Elective - HIST 400-585, 587-799. Pre-1800 Overlay	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Natural Science Elective	3	
Fine Arts or Humanities Elective	3	
Total Credits: 15		
Third Year		
Semester 1		
HIST Elective - HIST 400-585, 587-799. European Overlay	3	
Free Elective - US Multicultural Overlay	3	
Natural Elective - 300-level or with pre-req in the same area **OR**	3	
Quantitative Elective - 300-level or with pre-req in the same area **OR**	3	
Quantitative Social Science Elective - 300-level or with pre-req in the same area	3	

Non-quantitative Social Science Elective - 300-level or above with pre-req in same area	3		
Outside Concentration	3		
Total Credits: 15			
Semester 2			
HIST Elective - HIST 400-585, 587-799. Non-Western Overlay	3		
Free Elective - Ethical Reasoning Overlay	3		
Outside Concentration	3		
Natural Quantitative Elective - 300-level or with pre-req in the same area **OR**	3		
Quantitative Social Science Elective - 300-level or with pre-req in the same area	3		
Free Elective - Global Perspective Overlay	3		
Total Credits: 15			
Fourth Year			
Semester 1			
HIST 586 - Advanced Seminar in History	3		
Outside Concentration	3		
Free Elective	3		
Quantitative Elective	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
HIST Elective - HIST 400-585, 587-799. US Overlay.	3		
HIST Elective - HIST 100-298, 301-585, 587-799	3		

Free Elective	3		
Free Elective	3		
Free Elective	1		
Total Credits: 13			
Total Program Hours: 120			

Mathematics

Pietro Poggi-Corradini, Head
Gabe Kerr, Undergraduate Studies Director

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Our modern technological world has many fields that require mathematical expertise. The Department of Mathematics at K-State offers courses for students pursuing a career in mathematics as well as students needing quantitative and problem-solving skills for use in other fields.

Mathematics graduates are sought both for their specialized knowledge and for their ability to reason and think analytically and solve problems. Currently, there is a strong demand for mathematically trained people in technologically related positions dealing with applications and in education at all levels.

Dual majors and dual degrees

Students may major in mathematics and another discipline within the College of Arts and Sciences. The degree requirements of both departments must be met. Students may obtain a degree in mathematics and a second degree in a field in another college such as business administration, education, or engineering. The degree requirements of both colleges and majors must be met.

Information for nonmajors

Most colleges and departments require at least one mathematics course. Students should check with their advisors to determine which mathematics courses to take. Incoming students are provided a Placement Exam by K-State that will aid them in selecting the appropriate entry-level mathematics course. Expanded mathematics course descriptions are online.

Internal Educational Experience

Actuarial Mathematics
Mathematics Pre-Graduate
Mathematics Teacher Preparation
Mathematical Scholars

Bachelor of Arts

Mathematics - Actuarial Mathematics (BA)

The Actuarial Mathematics Track of the Mathematics BA degree prepares students with the necessary background to succeed in an actuarial science career. The curriculum emphasizes topics such as of probability, statistics, and mathematical finance. In addition to the requirements of the College of Arts and Sciences, actuarial mathematics majors must take the foundational and intermediate courses, specific courses focused on actuarial content, and then choose more advanced courses among the mathematics offerings. Each mathematics major will need to take free electives beyond their specified mathematics coursework in order to meet graduation requirements.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Mathematics,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for MATH) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]

- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Quantitative Foundation Courses: 42-44 Credit Hours

Foundational Courses: 11-12 Credit Hours

Choose foundational courses from the options. Note that Calc I will satisfy K-State Core requirement #3.

Programming Course

Choose one from the following

- CIS 200 - Programming Fundamentals **Credits:** 4
- CIS 209 - Computer Programming for Engineers **Credits:** 3
- CIS 570 - Introduction to Formal Language Theory **Credits:** 3

Calculus I Course

Choose one from the following

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 250 - Mathematical Scholars Calculus 1 **Credits:** 4

Calculus II Course

Choose one from the following

- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- MATH 251 - Mathematical Scholars Calculus 2 **Credits:** 4

Intermediate Courses: 10-11 Credit Hours

Choose either the Traditional or Scholar Option.

Traditional Option

- MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
- MATH 340 - Elementary Differential Equations **Credits:** 4

Linear Algebra Course

Choose one from the following

- MATH 515 - Introduction to Linear Algebra **Credits:** 3
- MATH 551 - Applied Matrix Theory **Credits:** 3

Scholar Option

The Scholar Option combines the three courses from the Traditional Option into a two course sequence. Completion of 350 from the Scholar Option without 351 will satisfy the Linear Algebra Course requirement of the Traditional Option.

- MATH 350 - Mathematical Scholars Calculus 3 **Credits:** 5
- MATH 351 - Mathematical Scholars Calculus 4 **Credits:** 5

Actuarial Course Requirements: 12 Credit Hours

- MATH 500 - Mathematical Theory of Interest **Credits:** 3
- MATH 501 - Mathematical Foundations of Actuarial Science **Credits:** 3
- STAT 610 - Introduction to Mathematical Statistics I **Credits:** 3
- STAT 611 - Introduction to Mathematical Statistics II **Credits:** 3

Math Electives: 9 Credit Hours

Choose 9 additional credits from mathematics courses numbered 400 and above of which 3 may be statistics courses numbered above 600.

- MATH 498 - Honors Project **Credits:** 3
- MATH 499 - Undergraduate Topics in Mathematics **Credits:** 1-18
- MATH 510 - Discrete Mathematics **Credits:** 3
- MATH 511 - Introduction to Algebraic Systems **Credits:** 3
- MATH 512 - Introduction to Modern Algebra **Credits:** 3
- MATH 515 - Introduction to Linear Algebra **Credits:** 3
- MATH 520 - Foundations of Analysis **Credits:** 3
- MATH 521 - The Real Number System **Credits:** 3
- MATH 540 - Advanced Ordinary Differential Equations **Credits:** 3
- MATH 560 - Introduction to Topology **Credits:** 3
- MATH 570 - History of Mathematics **Credits:** 3
- MATH 572 - Foundations of Geometry **Credits:** 3
- MATH 591 - Topics in Mathematics for Teachers **Credits:** 1-3
- MATH 599 - Topics in Mathematics **Credits:** 1-3
- MATH 615 - Introduction to Digital Image Processing **Credits:** 3
- MATH 620 - Convex Optimization for Data Science **Credits:** 3
- MATH 630 - Introduction to Complex Analysis **Credits:** 3
- MATH 632 - Elementary Partial Differential Equations **Credits:** 3
- MATH 633 - Advanced Calculus I **Credits:** 3
- MATH 634 - Advanced Calculus II **Credits:** 3

- MATH 635 - Dynamics, Chaos, and Fractals **Credits:** 3
- MATH 655 - Elementary Numerical Analysis I **Credits:** 3
- MATH 656 - Elementary Numerical Analysis II **Credits:** 3
- MATH 670 - Mathematical Modeling **Credits:** 3
- MATH 700 - Set Theory and Logic **Credits:** 3
- MATH 704 - Introduction to the Theory of Groups **Credits:** 3
- MATH 705 - Computational Math **Credits:** 3
- MATH 706 - Theory of Numbers **Credits:** 3
- MATH 707 - Theory of Numbers II **Credits:** 3
- MATH 710 - Introduction to Category Theory **Credits:** 3
- MATH 711 - Category Theory **Credits:** 3
- MATH 713 - Advanced Applied Matrix Theory **Credits:** 3
- MATH 715 - Applied Mathematics I **Credits:** 3
- MATH 716 - Applied Mathematics II **Credits:** 3
- MATH 721 - Introduction to Real Analysis **Credits:** 3
- MATH 722 - Introduction to Functions of Several Variables **Credits:** 3
- MATH 723 - Complex Functions **Credits:** 3
- MATH 725 - The Mathematics of Data and Networks I **Credits:** 3
- MATH 726 - The Mathematics of Data and Networks II **Credits:** 3
- MATH 730 - Abstract Algebra I **Credits:** 3
- MATH 731 - Abstract Algebra II **Credits:** 3
- MATH 740 - Calculus of Variation **Credits:** 3
- MATH 745 - Ordinary Differential Equations **Credits:** 3
- MATH 755 - Dynamic Modeling Processes **Credits:** 3
- MATH 760 - Introduction to Probability Theory **Credits:** 3
- MATH 770 - Introduction to Topology/Geometry I **Credits:** 3
- MATH 771 - Introduction to Topology/Geometry II **Credits:** 3
- MATH 772 - Elementary Differential Geometry **Credits:** 3
- MATH 789 - Combinatorial Analysis **Credits:** 3
- MATH 791 - Topics in Mathematics for Secondary School Teachers **Credits:** 3
- MATH 799 - Topics in Mathematics **Credits:** .5-3
- STAT 701 - Fundamental Methods of Biostatistics **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
- STAT 705 - Regression and Analysis of Variance **Credits:** 3
- STAT 706 - Basic Elements of Statistical Theory **Credits:** 3
- STAT 710 - Sample Survey Methods **Credits:** 3
- STAT 713 - Applied Linear Statistical Models **Credits:** 3
- STAT 716 - Nonparametric Statistics **Credits:** 3
- STAT 717 - Categorical Data Analysis **Credits:** 3
- STAT 720 - Design of Experiments **Credits:** 3
- STAT 722 - Experimental Designs for Product Development and Quality Improvement **Credits:** 3
- STAT 725 - Introduction to the SAS Computing **Credits:** 1
- STAT 726 - Introduction to R Computing **Credits:** 1
- STAT 727 - Statistical Computing/Numerical Methods of Statistics **Credits:** 3
- STAT 730 - Multivariate Statistical Methods **Credits:** 3
- STAT 736 - Bioassay **Credits:** 2

- STAT 745 - Statistical Graphics **Credits:** 3
- STAT 750 - Studies in Probability and Statistics **Credits:** 1-4
- STAT 760 - Optimization for Data Science **Credits:** 3
- STAT 761 - Discrete Optimization and Scalability for Data Science **Credits:** 3
- STAT 764 - Applied Spatio-Temporal Statistics **Credits:** 3
- STAT 766 - Applied Data Mining/Machine Learning and Predictive Analytics **Credits:** 3
- STAT 768 - Applied Bayesian Modeling and Prediction **Credits:** 3
- STAT 770 - Theory of Statistics I **Credits:** 3
- STAT 771 - Theory of Statistics II **Credits:** 3
- STAT 799 - Topics in Statistics **Credits:** 0-3

BA Arts, Humanities, and Social Sciences Requirement: 12 Credit Hours

3 credit hours in each of the following, with at least 6 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BA are satisfied by the following:

- Math courses (2) fulfill Quantitative requirements
- BA Arts, Humanities, and Social Sciences Restricted Electives
- BA Second Language Restricted Electives

Mathematics - Applied Mathematics (BA)

The Applied Mathematics Track of the Mathematics BA degree focuses on the modern use of advanced mathematics in business, computer and data science, engineering, finance, and the physical sciences. In addition to the requirements of the College of Arts and Sciences, applied mathematics majors must take the foundational and intermediate courses, and then choose more advanced courses among the applied mathematics offerings. Each mathematics major will need to take free electives beyond their specified mathematics coursework in order to meet graduation requirements.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: (1 credit hour)

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: (9 credit hours)

Outside credential of at least 9 credit hours (May be from any unit, **except Mathematics,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for MATH) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: ([9] credit hours)

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Quantitative Foundation Courses: (42-44 credit hours)

Foundational Courses: (14-15 credit hours)

Choose foundational courses from the options. Note that Calc I will satisfy K-State Core requirement #3

Programming Course

Choose one from the following

- CIS 200 - Programming Fundamentals **Credits:** 4
- CIS 209 - Computer Programming for Engineers **Credits:** 3
- CIS 531 - Introduction to Programming Techniques for Data Science and Analytics **Credits:** 3

Statistics Course

Choose one from the following

- STAT 510 - Introductory Probability and Statistics I **Credits:** 3
- STAT 610 - Introduction to Mathematical Statistics I **Credits:** 3

Calculus I Course

Choose one from the following

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 250 - Mathematical Scholars Calculus 1 **Credits:** 4

Calculus II Course

Choose one from the following

- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- MATH 251 - Mathematical Scholars Calculus 2 **Credits:** 4

Intermediate Courses: (10-11 credit hours)

Choose either the Traditional or Scholar Option.

Traditional Option

- MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
- MATH 340 - Elementary Differential Equations **Credits:** 4

Linear Algebra Course

Choose one from the following

- MATH 515 - Introduction to Linear Algebra **Credits:** 3
- MATH 551 - Applied Matrix Theory **Credits:** 3
  MATH 350 may be used to satisfy the linear algebra requirement, for students who started on the scholars option but switched to the traditional option

Scholar Option

The Scholar Option combines the three courses from the Traditional Option into a two course sequence. Completion of MATH 350 from the Scholar Option without MATH 351 will satisfy the Linear Algebra Course requirement of the Traditional Option.

- MATH 350 - Mathematical Scholars Calculus 3 **Credits:** 5
- MATH 351 - Mathematical Scholars Calculus 4 **Credits:** 5

Applied Mathematics Courses: (9 credit hours)

Choose three courses, two from Group 1 and a third from either Group 1 or Group 2

Applied Mathematics Courses: Group 1

Choose two courses from the following options

- MATH 498 - Honors Project **Credits:** 3
- MATH 499 - Undergraduate Topics in Mathematics **Credits:** 1-18
- MATH 500 - Mathematical Theory of Interest **Credits:** 3
- MATH 510 - Discrete Mathematics **Credits:** 3
- MATH 540 - Advanced Ordinary Differential Equations **Credits:** 3
- MATH 615 - Introduction to Digital Image Processing **Credits:** 3
- MATH 620 - Convex Optimization for Data Science **Credits:** 3
- MATH 632 - Elementary Partial Differential Equations **Credits:** 3
- MATH 715 - Applied Mathematics I **Credits:** 3
- MATH 789 - Combinatorial Analysis **Credits:** 3
- MATH 655 - Elementary Numerical Analysis I **Credits:** 3

Analysis Course Option

Either MATH 520 or MATH 633 may be chosen, but not both

- MATH 520 - Foundations of Analysis **Credits:** 3
- MATH 633 - Advanced Calculus I **Credits:** 3

Applied Mathematics Courses: Group 2

Choose one additional course from either Group 1 or Group 2

- MATH 501 - Mathematical Foundations of Actuarial Science **Credits:** 3
- MATH 630 - Introduction to Complex Analysis **Credits:** 3
- MATH 634 - Advanced Calculus II **Credits:** 3
- MATH 635 - Dynamics, Chaos, and Fractals **Credits:** 3
- MATH 656 - Elementary Numerical Analysis II **Credits:** 3
- MATH 705 - Computational Math **Credits:** 3
- MATH 716 - Applied Mathematics II **Credits:** 3
- MATH 725 - The Mathematics of Data and Networks I **Credits:** 3
- MATH 726 - The Mathematics of Data and Networks II **Credits:** 3
- MATH 760 - Introduction to Probability Theory **Credits:** 3

Math Electives: (9 credit hours)

Choose three courses from the list, one of which must have the MATH prefix.

- CC 535 - Applied Data Science **Credits:** 3
- CIS 531 - Introduction to Programming Techniques for Data Science and Analytics **Credits:** 3
- CIS 575 - Introduction to Algorithm Analysis **Credits:** 3
- IMSE 785 - Big Data Analytics **Credits:** 3
- MATH 498 - Honors Project **Credits:** 3
- MATH 499 - Undergraduate Topics in Mathematics **Credits:** 1-18
- MATH 500 - Mathematical Theory of Interest **Credits:** 3
- MATH 501 - Mathematical Foundations of Actuarial Science **Credits:** 3
- MATH 510 - Discrete Mathematics **Credits:** 3
- MATH 511 - Introduction to Algebraic Systems **Credits:** 3
- MATH 512 - Introduction to Modern Algebra **Credits:** 3
- MATH 515 - Introduction to Linear Algebra **Credits:** 3
- MATH 520 - Foundations of Analysis **Credits:** 3
- MATH 521 - The Real Number System **Credits:** 3
- MATH 540 - Advanced Ordinary Differential Equations **Credits:** 3
- MATH 551 - Applied Matrix Theory **Credits:** 3
- MATH 560 - Introduction to Topology **Credits:** 3
- MATH 570 - History of Mathematics **Credits:** 3
- MATH 572 - Foundations of Geometry **Credits:** 3
- MATH 591 - Topics in Mathematics for Teachers **Credits:** 1-3
- MATH 599 - Topics in Mathematics **Credits:** 1-3
- MATH 615 - Introduction to Digital Image Processing **Credits:** 3
- MATH 620 - Convex Optimization for Data Science **Credits:** 3

- MATH 630 - Introduction to Complex Analysis **Credits:** 3
- MATH 632 - Elementary Partial Differential Equations **Credits:** 3
- MATH 633 - Advanced Calculus I **Credits:** 3
- MATH 634 - Advanced Calculus II **Credits:** 3
- MATH 635 - Dynamics, Chaos, and Fractals **Credits:** 3
- MATH 656 - Elementary Numerical Analysis II **Credits:** 3
- MATH 670 - Mathematical Modeling **Credits:** 3
- MATH 700 - Set Theory and Logic **Credits:** 3
- MATH 704 - Introduction to the Theory of Groups **Credits:** 3
- MATH 705 - Computational Math **Credits:** 3
- MATH 706 - Theory of Numbers **Credits:** 3
- MATH 707 - Theory of Numbers II **Credits:** 3
- MATH 710 - Introduction to Category Theory **Credits:** 3
- MATH 711 - Category Theory **Credits:** 3
- MATH 713 - Advanced Applied Matrix Theory **Credits:** 3
- MATH 715 - Applied Mathematics I **Credits:** 3
- MATH 716 - Applied Mathematics II **Credits:** 3
- MATH 721 - Introduction to Real Analysis **Credits:** 3
- MATH 722 - Introduction to Functions of Several Variables **Credits:** 3
- MATH 723 - Complex Functions **Credits:** 3
- MATH 725 - The Mathematics of Data and Networks I **Credits:** 3
- MATH 726 - The Mathematics of Data and Networks II **Credits:** 3
- MATH 730 - Abstract Algebra I **Credits:** 3
- MATH 731 - Abstract Algebra II **Credits:** 3
- MATH 740 - Calculus of Variation **Credits:** 3
- MATH 745 - Ordinary Differential Equations **Credits:** 3
- MATH 755 - Dynamic Modeling Processes **Credits:** 3
- MATH 760 - Introduction to Probability Theory **Credits:** 3
- MATH 770 - Introduction to Topology/Geometry I **Credits:** 3
- MATH 771 - Introduction to Topology/Geometry II **Credits:** 3
- MATH 772 - Elementary Differential Geometry **Credits:** 3
- MATH 789 - Combinatorial Analysis **Credits:** 3
- MATH 791 - Topics in Mathematics for Secondary School Teachers **Credits:** 3
- MATH 799 - Topics in Mathematics **Credits:** .5-3
- STAT 705 - Regression and Analysis of Variance **Credits:** 3
- STAT 713 - Applied Linear Statistical Models **Credits:** 3
- STAT 745 - Statistical Graphics **Credits:** 3
- STAT 760 - Optimization for Data Science **Credits:** 3
- STAT 761 - Discrete Optimization and Scalability for Data Science **Credits:** 3
- STAT 764 - Applied Spatio-Temporal Statistics **Credits:** 3
- STAT 766 - Applied Data Mining/Machine Learning and Predictive Analytics **Credits:** 3
- STAT 768 - Applied Bayesian Modeling and Prediction **Credits:** 3
- MATH 655 - Elementary Numerical Analysis I **Credits:** 3

BA Arts, Humanities, and Social Sciences Requirement: (12 credit hours)

3 credit hours in each of the following, with at least 6 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities: (3 credit hours)

Any course or combination of courses in Fine Arts: (3 credit hours)

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq: (3 credit hours)

BA Second Language Requirement: (3-16 credit hours)

Choose one of the following:

Option 1: (3-14 credit hours)

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: (16 credit hours)

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: (3 credit hours)

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Mathematics - Pure Mathematics (BA)

The Pure Mathematics Track of the Mathematics BA degree focuses on the central subjects of the discipline and prepares students for a career in the mathematical sciences. The curriculum is designed to provide insights into advanced mathematics as it is studied and applied in the modern world. In addition to the requirements of the College of Arts and Sciences, pure mathematics majors must take the foundational, intermediate, and advanced courses, and then choose math electives among the mathematics course offerings. Each mathematics major will need to take free electives beyond their specified mathematics coursework in order to meet graduation requirements.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except ****, etc,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for ****) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Program

Completion of a course towards the major requires a grade of C or above in all MATH courses.
The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Quantitative Foundation Courses: 42-44 Credit Hours

Foundational Courses: 14-15 Credit Hours

Choose foundational courses from the options. Note that Calc I will satisfy K-State Core requirement #3.

Programming Course

Choose one from the following

- CIS 200 - Programming Fundamentals **Credits:** 4
- CIS 209 - Computer Programming for Engineers **Credits:** 3
- CIS 570 - Introduction to Formal Language Theory **Credits:** 3

Statistics Course

Choose one from the following

- STAT 510 - Introductory Probability and Statistics I **Credits:** 3
- STAT 610 - Introduction to Mathematical Statistics I **Credits:** 3

Calculus I Course

Choose one from the following

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 250 - Mathematical Scholars Calculus 1 **Credits:** 4

Calculus II Course

Choose one from the following

- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- MATH 251 - Mathematical Scholars Calculus 2 **Credits:** 4

Intermediate Courses: 10-11 Credit Hours

Choose either the Traditional or Scholar Option.

Traditional Option

- MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
- MATH 340 - Elementary Differential Equations **Credits:** 4

Linear Algebra Course

Choose one from the following

- MATH 515 - Introduction to Linear Algebra **Credits:** 3
- MATH 551 - Applied Matrix Theory **Credits:** 3

Scholar Option

The Scholar Option combines the three courses from the Traditional Option into a two course sequence. Completion of MATH 350 from the Scholar Option without MATH 351 will satisfy the Linear Algebra Course requirement of the Traditional Option.

- MATH 350 - Mathematical Scholars Calculus 3 **Credits:** 5
- MATH 351 - Mathematical Scholars Calculus 4 **Credits:** 5

Advanced Courses: 6 Credit Hours

Choose an algebra and analysis course from the options.

Algebra Course

Choose one from the following

- MATH 511 - Introduction to Algebraic Systems **Credits:** 3
- MATH 512 - Introduction to Modern Algebra **Credits:** 3

Analysis Course

Choose one from the following

- MATH 520 - Foundations of Analysis **Credits:** 3
- MATH 633 - Advanced Calculus I **Credits:** 3

Math Electives: 12 Credit Hours

Choose 12 additional credits from mathematics courses numbered 400 and above.

- MATH 498 - Honors Project **Credits:** 3
- MATH 499 - Undergraduate Topics in Mathematics **Credits:** 1-18
- MATH 500 - Mathematical Theory of Interest **Credits:** 3
- MATH 501 - Mathematical Foundations of Actuarial Science **Credits:** 3
- MATH 510 - Discrete Mathematics **Credits:** 3
- MATH 512 - Introduction to Modern Algebra **Credits:** 3
- MATH 515 - Introduction to Linear Algebra **Credits:** 3
- MATH 521 - The Real Number System **Credits:** 3
- MATH 540 - Advanced Ordinary Differential Equations **Credits:** 3
- MATH 560 - Introduction to Topology **Credits:** 3
- MATH 570 - History of Mathematics **Credits:** 3
- MATH 572 - Foundations of Geometry **Credits:** 3
- MATH 591 - Topics in Mathematics for Teachers **Credits:** 1-3
- MATH 599 - Topics in Mathematics **Credits:** 1-3
- MATH 615 - Introduction to Digital Image Processing **Credits:** 3
- MATH 620 - Convex Optimization for Data Science **Credits:** 3
- MATH 630 - Introduction to Complex Analysis **Credits:** 3
- MATH 632 - Elementary Partial Differential Equations **Credits:** 3
- MATH 633 - Advanced Calculus I **Credits:** 3
- MATH 634 - Advanced Calculus II **Credits:** 3

- MATH 635 - Dynamics, Chaos, and Fractals **Credits:** 3
- MATH 655 - Elementary Numerical Analysis I **Credits:** 3
- MATH 656 - Elementary Numerical Analysis II **Credits:** 3
- MATH 670 - Mathematical Modeling **Credits:** 3
- MATH 700 - Set Theory and Logic **Credits:** 3
- MATH 704 - Introduction to the Theory of Groups **Credits:** 3
- MATH 705 - Computational Math **Credits:** 3
- MATH 706 - Theory of Numbers **Credits:** 3
- MATH 707 - Theory of Numbers II **Credits:** 3
- MATH 710 - Introduction to Category Theory **Credits:** 3
- MATH 711 - Category Theory **Credits:** 3
- MATH 713 - Advanced Applied Matrix Theory **Credits:** 3
- MATH 715 - Applied Mathematics I **Credits:** 3
- MATH 716 - Applied Mathematics II **Credits:** 3
- MATH 721 - Introduction to Real Analysis **Credits:** 3
- MATH 722 - Introduction to Functions of Several Variables **Credits:** 3
- MATH 723 - Complex Functions **Credits:** 3
- MATH 725 - The Mathematics of Data and Networks I **Credits:** 3
- MATH 726 - The Mathematics of Data and Networks II **Credits:** 3
- MATH 730 - Abstract Algebra I **Credits:** 3
- MATH 731 - Abstract Algebra II **Credits:** 3
- MATH 740 - Calculus of Variation **Credits:** 3
- MATH 745 - Ordinary Differential Equations **Credits:** 3
- MATH 755 - Dynamic Modeling Processes **Credits:** 3
- MATH 760 - Introduction to Probability Theory **Credits:** 3
- MATH 770 - Introduction to Topology/Geometry I **Credits:** 3
- MATH 771 - Introduction to Topology/Geometry II **Credits:** 3
- MATH 772 - Elementary Differential Geometry **Credits:** 3
- MATH 789 - Combinatorial Analysis **Credits:** 3
- MATH 791 - Topics in Mathematics for Secondary School Teachers **Credits:** 3
- MATH 799 - Topics in Mathematics **Credits:** .5-3

BA Arts, Humanities, and Social Sciences Restricted Electives: 12 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Second Language Restricted Electives: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives

In addition to K-State Core Free Electives requirement, take any courses so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Bachelor of Science

Mathematics - Applied Mathematics (BS)

The Applied Mathematics Track of the Mathematics BS degree focuses on the modern use of advanced mathematics in business, computer and data science, engineering, finance, and the physical sciences. In addition to the requirements of the College of Arts and Sciences, applied mathematics majors must take the foundational and intermediate courses, and then choose more advanced courses among the applied mathematics offerings. Each mathematics major will need to take free electives beyond their specified mathematics coursework in order to meet graduation requirements.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Mathematics**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for MATH**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Quantitative Foundation Courses: 42-44 Credit Hours

Foundational Courses: 14-15 Credit Hours

Choose foundational courses from the options. Note that Calc I will satisfy K-State Core requirement #3.

Programming Course

Choose one from the following

- CIS 200 - Programming Fundamentals **Credits:** 4
- CIS 209 - Computer Programming for Engineers **Credits:** 3
- CIS 531 - Introduction to Programming Techniques for Data Science and Analytics **Credits:** 3

Statistics Course

Choose one from the following

- STAT 510 - Introductory Probability and Statistics I **Credits:** 3
- STAT 610 - Introduction to Mathematical Statistics I **Credits:** 3

Calculus I Course

Choose one from the following

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 250 - Mathematical Scholars Calculus 1 **Credits:** 4

Calculus II Course

Choose one from the following

- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- MATH 251 - Mathematical Scholars Calculus 2 **Credits:** 4

Intermediate Courses: 10-11 Credit Hours

Choose either the Traditional or Scholar Option.

Traditional Option

- MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
- MATH 340 - Elementary Differential Equations **Credits:** 4

Linear Algebra Course

Choose one from the following

- MATH 515 - Introduction to Linear Algebra **Credits:** 3
- MATH 551 - Applied Matrix Theory **Credits:** 3

Scholar Option

The Scholar Option combines the three courses from the Traditional Option into a two course sequence. Completion of MATH 350 from the Scholar Option without MATH 351 will satisfy the Linear Algebra Course requirement of the Traditional Option.

- MATH 350 - Mathematical Scholars Calculus 3 **Credits:** 5
- MATH 351 - Mathematical Scholars Calculus 4 **Credits:** 5

Applied Mathematics Courses: 9 Credit Hours

Choose three courses, two from Group 1 and a third from either Group 1 or Group 2

Applied Mathematics Courses: Group 1

Choose two courses from the following options

- MATH 498 - Honors Project **Credits:** 3
- MATH 499 - Undergraduate Topics in Mathematics **Credits:** 1-18
- MATH 500 - Mathematical Theory of Interest **Credits:** 3
- MATH 510 - Discrete Mathematics **Credits:** 3
- MATH 540 - Advanced Ordinary Differential Equations **Credits:** 3
- MATH 615 - Introduction to Digital Image Processing **Credits:** 3
- MATH 620 - Convex Optimization for Data Science **Credits:** 3
- MATH 632 - Elementary Partial Differential Equations **Credits:** 3
- MATH 655 - Elementary Numerical Analysis I **Credits:** 3
- MATH 715 - Applied Mathematics I **Credits:** 3
- MATH 789 - Combinatorial Analysis **Credits:** 3

Analysis Course Option

Either MATH 520 or MATH 633 may be chosen, but not both

- MATH 520 - Foundations of Analysis **Credits:** 3
- MATH 633 - Advanced Calculus I **Credits:** 3

Applied Mathematics Courses: Group 2

Choose one additional course from either Group 1 or Group 2

- MATH 501 - Mathematical Foundations of Actuarial Science **Credits:** 3
- MATH 630 - Introduction to Complex Analysis **Credits:** 3
- MATH 634 - Advanced Calculus II **Credits:** 3
- MATH 635 - Dynamics, Chaos, and Fractals **Credits:** 3
- MATH 656 - Elementary Numerical Analysis II **Credits:** 3
- MATH 705 - Computational Math **Credits:** 3
- MATH 716 - Applied Mathematics II **Credits:** 3
- MATH 725 - The Mathematics of Data and Networks I **Credits:** 3
- MATH 726 - The Mathematics of Data and Networks II **Credits:** 3
- MATH 760 - Introduction to Probability Theory **Credits:** 3

Math Electives: 9 Credit Hours

Choose three courses from the list, one of which must have the MATH prefix.

- CC 535 - Applied Data Science **Credits:** 3
- CIS 531 - Introduction to Programming Techniques for Data Science and Analytics **Credits:** 3
- CIS 575 - Introduction to Algorithm Analysis **Credits:** 3
- IMSE 785 - Big Data Analytics **Credits:** 3
- MATH 498 - Honors Project **Credits:** 3
- MATH 499 - Undergraduate Topics in Mathematics **Credits:** 1-18
- MATH 500 - Mathematical Theory of Interest **Credits:** 3
- MATH 501 - Mathematical Foundations of Actuarial Science **Credits:** 3

- MATH 510 - Discrete Mathematics **Credits:** 3
- MATH 511 - Introduction to Algebraic Systems **Credits:** 3
- MATH 512 - Introduction to Modern Algebra **Credits:** 3
- MATH 515 - Introduction to Linear Algebra **Credits:** 3
- MATH 520 - Foundations of Analysis **Credits:** 3
- MATH 521 - The Real Number System **Credits:** 3
- MATH 540 - Advanced Ordinary Differential Equations **Credits:** 3
- MATH 551 - Applied Matrix Theory **Credits:** 3
- MATH 560 - Introduction to Topology **Credits:** 3
- MATH 570 - History of Mathematics **Credits:** 3
- MATH 572 - Foundations of Geometry **Credits:** 3
- MATH 591 - Topics in Mathematics for Teachers **Credits:** 1-3
- MATH 599 - Topics in Mathematics **Credits:** 1-3
- MATH 615 - Introduction to Digital Image Processing **Credits:** 3
- MATH 620 - Convex Optimization for Data Science **Credits:** 3
- MATH 630 - Introduction to Complex Analysis **Credits:** 3
- MATH 632 - Elementary Partial Differential Equations **Credits:** 3
- MATH 633 - Advanced Calculus I **Credits:** 3
- MATH 634 - Advanced Calculus II **Credits:** 3
- MATH 635 - Dynamics, Chaos, and Fractals **Credits:** 3
- MATH 655 - Elementary Numerical Analysis I **Credits:** 3
- MATH 656 - Elementary Numerical Analysis II **Credits:** 3
- MATH 670 - Mathematical Modeling **Credits:** 3
- MATH 700 - Set Theory and Logic **Credits:** 3
- MATH 704 - Introduction to the Theory of Groups **Credits:** 3
- MATH 705 - Computational Math **Credits:** 3
- MATH 706 - Theory of Numbers **Credits:** 3
- MATH 707 - Theory of Numbers II **Credits:** 3
- MATH 710 - Introduction to Category Theory **Credits:** 3
- MATH 711 - Category Theory **Credits:** 3
- MATH 713 - Advanced Applied Matrix Theory **Credits:** 3
- MATH 715 - Applied Mathematics I **Credits:** 3
- MATH 716 - Applied Mathematics II **Credits:** 3
- MATH 721 - Introduction to Real Analysis **Credits:** 3
- MATH 722 - Introduction to Functions of Several Variables **Credits:** 3
- MATH 723 - Complex Functions **Credits:** 3
- MATH 725 - The Mathematics of Data and Networks I **Credits:** 3
- MATH 726 - The Mathematics of Data and Networks II **Credits:** 3
- MATH 730 - Abstract Algebra I **Credits:** 3
- MATH 731 - Abstract Algebra II **Credits:** 3
- MATH 740 - Calculus of Variation **Credits:** 3
- MATH 745 - Ordinary Differential Equations **Credits:** 3
- MATH 755 - Dynamic Modeling Processes **Credits:** 3
- MATH 760 - Introduction to Probability Theory **Credits:** 3
- MATH 770 - Introduction to Topology/Geometry I **Credits:** 3
- MATH 771 - Introduction to Topology/Geometry II **Credits:** 3

- MATH 772 - Elementary Differential Geometry **Credits:** 3
- MATH 789 - Combinatorial Analysis **Credits:** 3
- MATH 791 - Topics in Mathematics for Secondary School Teachers **Credits:** 3
- MATH 799 - Topics in Mathematics **Credits:** .5-3
- STAT 705 - Regression and Analysis of Variance **Credits:** 3
- STAT 713 - Applied Linear Statistical Models **Credits:** 3
- STAT 745 - Statistical Graphics **Credits:** 3
- STAT 760 - Optimization for Data Science **Credits:** 3
- STAT 761 - Discrete Optimization and Scalability for Data Science **Credits:** 3
- STAT 764 - Applied Spatio-Temporal Statistics **Credits:** 3
- STAT 766 - Applied Data Mining/Machine Learning and Predictive Analytics **Credits:** 3
- STAT 768 - Applied Bayesian Modeling and Prediction **Credits:** 3

BS Natural and Quantitative Requirements: 3-5 Credit Hours

One course in the following at any level.

Natural Science course Credits: 3-5

BS Arts, Humanities, and Social Sciences Requirements: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: 28

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Mathematics - Actuarial Mathematics (BS)

The Actuarial Mathematics Track of the Mathematics BS degree prepares students with the necessary background to succeed in an actuarial science career. The curriculum emphasizes topics such as of probability, statistics, and mathematical finance. In addition to the requirements of the College of Arts and Sciences, actuarial mathematics majors must take the foundational and intermediate courses, specific courses focused on actuarial content, and then choose more advanced courses among the mathematics offerings. Each mathematics major will need to take free electives beyond their specified mathematics coursework in order to meet graduation requirements.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Mathematics**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for MATH**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Quantitative Foundation Courses: 42-44 Credit Hours

Foundational Courses: 11-12 Credit Hours

Choose foundational courses from the options. Note that Calc I will satisfy K-State Core requirement #3.

Programming Course

Choose one from the following

- CIS 200 - Programming Fundamentals **Credits:** 4
- CIS 209 - Computer Programming for Engineers **Credits:** 3
- CIS 570 - Introduction to Formal Language Theory **Credits:** 3

Calculus I Course

Choose one from the following

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 250 - Mathematical Scholars Calculus 1 **Credits:** 4

Calculus II Course

Choose one from the following

- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- MATH 251 - Mathematical Scholars Calculus 2 **Credits:** 4

Intermediate Courses: 10-11 Credit Hours

Choose either the Traditional or Scholar Option.

Traditional Option

- MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
- MATH 340 - Elementary Differential Equations **Credits:** 4

Linear Algebra Course

Choose one from the following

- MATH 515 - Introduction to Linear Algebra **Credits:** 3
- MATH 551 - Applied Matrix Theory **Credits:** 3

Scholar Option

The Scholar Option combines the three courses from the Traditional Option into a two course sequence. Completion of 350 from the Scholar Option without 351 will satisfy the Linear Algebra Course requirement of the Traditional Option.

- MATH 350 - Mathematical Scholars Calculus 3 **Credits:** 5
- MATH 351 - Mathematical Scholars Calculus 4 **Credits:** 5

Actuarial Course Requirements: 12 Credit Hours

- MATH 500 - Mathematical Theory of Interest **Credits:** 3
- MATH 501 - Mathematical Foundations of Actuarial Science **Credits:** 3
- STAT 610 - Introduction to Mathematical Statistics I **Credits:** 3
- STAT 611 - Introduction to Mathematical Statistics II **Credits:** 3

Math Electives: 9 Credit Hours

Choose 9 additional credits from mathematics courses numbered 400 and above of which 3 may be statistics courses numbered above 600.

- MATH 498 - Honors Project **Credits:** 3
- MATH 499 - Undergraduate Topics in Mathematics **Credits:** 1-18
- MATH 510 - Discrete Mathematics **Credits:** 3
- MATH 511 - Introduction to Algebraic Systems **Credits:** 3
- MATH 512 - Introduction to Modern Algebra **Credits:** 3
- MATH 515 - Introduction to Linear Algebra **Credits:** 3
- MATH 520 - Foundations of Analysis **Credits:** 3
- MATH 521 - The Real Number System **Credits:** 3
- MATH 540 - Advanced Ordinary Differential Equations **Credits:** 3
- MATH 560 - Introduction to Topology **Credits:** 3
- MATH 570 - History of Mathematics **Credits:** 3
- MATH 572 - Foundations of Geometry **Credits:** 3
- MATH 591 - Topics in Mathematics for Teachers **Credits:** 1-3
- MATH 599 - Topics in Mathematics **Credits:** 1-3
- MATH 615 - Introduction to Digital Image Processing **Credits:** 3
- MATH 620 - Convex Optimization for Data Science **Credits:** 3
- MATH 630 - Introduction to Complex Analysis **Credits:** 3
- MATH 632 - Elementary Partial Differential Equations **Credits:** 3
- MATH 633 - Advanced Calculus I **Credits:** 3
- MATH 634 - Advanced Calculus II **Credits:** 3
- MATH 635 - Dynamics, Chaos, and Fractals **Credits:** 3
- MATH 655 - Elementary Numerical Analysis I **Credits:** 3
- MATH 656 - Elementary Numerical Analysis II **Credits:** 3
- MATH 670 - Mathematical Modeling **Credits:** 3
- MATH 700 - Set Theory and Logic **Credits:** 3
- MATH 704 - Introduction to the Theory of Groups **Credits:** 3
- MATH 705 - Computational Math **Credits:** 3
- MATH 706 - Theory of Numbers **Credits:** 3
- MATH 707 - Theory of Numbers II **Credits:** 3
- MATH 710 - Introduction to Category Theory **Credits:** 3
- MATH 711 - Category Theory **Credits:** 3
- MATH 713 - Advanced Applied Matrix Theory **Credits:** 3
- MATH 715 - Applied Mathematics I **Credits:** 3
- MATH 716 - Applied Mathematics II **Credits:** 3
- MATH 721 - Introduction to Real Analysis **Credits:** 3
- MATH 722 - Introduction to Functions of Several Variables **Credits:** 3
- MATH 723 - Complex Functions **Credits:** 3

- MATH 725 - The Mathematics of Data and Networks I **Credits:** 3
- MATH 726 - The Mathematics of Data and Networks II **Credits:** 3
- MATH 730 - Abstract Algebra I **Credits:** 3
- MATH 731 - Abstract Algebra II **Credits:** 3
- MATH 740 - Calculus of Variation **Credits:** 3
- MATH 745 - Ordinary Differential Equations **Credits:** 3
- MATH 755 - Dynamic Modeling Processes **Credits:** 3
- MATH 760 - Introduction to Probability Theory **Credits:** 3
- MATH 770 - Introduction to Topology/Geometry I **Credits:** 3
- MATH 771 - Introduction to Topology/Geometry II **Credits:** 3
- MATH 772 - Elementary Differential Geometry **Credits:** 3
- MATH 789 - Combinatorial Analysis **Credits:** 3
- MATH 791 - Topics in Mathematics for Secondary School Teachers **Credits:** 3
- MATH 799 - Topics in Mathematics **Credits:** .5-3
- STAT 701 - Fundamental Methods of Biostatistics **Credits:** 3
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3
- STAT 705 - Regression and Analysis of Variance **Credits:** 3
- STAT 706 - Basic Elements of Statistical Theory **Credits:** 3
- STAT 710 - Sample Survey Methods **Credits:** 3
- STAT 713 - Applied Linear Statistical Models **Credits:** 3
- STAT 716 - Nonparametric Statistics **Credits:** 3
- STAT 717 - Categorical Data Analysis **Credits:** 3
- STAT 720 - Design of Experiments **Credits:** 3
- STAT 722 - Experimental Designs for Product Development and Quality Improvement **Credits:** 3
- STAT 725 - Introduction to the SAS Computing **Credits:** 1
- STAT 726 - Introduction to R Computing **Credits:** 1
- STAT 727 - Statistical Computing/Numerical Methods of Statistics **Credits:** 3
- STAT 730 - Multivariate Statistical Methods **Credits:** 3
- STAT 736 - Bioassay **Credits:** 2
- STAT 745 - Statistical Graphics **Credits:** 3
- STAT 750 - Studies in Probability and Statistics **Credits:** 1-4
- STAT 760 - Optimization for Data Science **Credits:** 3
- STAT 761 - Discrete Optimization and Scalability for Data Science **Credits:** 3
- STAT 764 - Applied Spatio-Temporal Statistics **Credits:** 3
- STAT 766 - Applied Data Mining/Machine Learning and Predictive Analytics **Credits:** 3
- STAT 768 - Applied Bayesian Modeling and Prediction **Credits:** 3
- STAT 770 - Theory of Statistics I **Credits:** 3
- STAT 771 - Theory of Statistics II **Credits:** 3
- STAT 799 - Topics in Statistics **Credits:** 0-3

BS Natural and Quantitative Restricted Electives: 3-5 Credit Hours

One course in the following at any level.

Natural Science course Credits: 3-5

BS Arts, Humanities, and Social Sciences Requirements: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: 28 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Mathematics - Pure Mathematics (BS)

The Pure Mathematics Track of the Mathematics BS degree focuses on the central subjects of the discipline and prepares students for a career in the mathematical sciences. The curriculum is designed to provide insights into advanced mathematics as it is studied and applied in the modern world. In addition to the requirements of the College of Arts and Sciences, pure mathematics majors must take the foundational, intermediate, and advanced courses, and then choose math electives among the mathematics course offerings. Each mathematics major will need to take free electives beyond their specified mathematics coursework in order to meet graduation requirements.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Mathematics**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for MATH**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Program

Completion of a course towards the major requires a grade of C or above in all MATH courses.

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Quantitative Foundation Courses: 42-44 Credit Hours

Foundational Courses: 14-15 Credit Hours

Choose foundational courses from the options. Note that Calc I will satisfy K-State Core requirement #3.

Programming Course

choose one from the following

- CIS 200 - Programming Fundamentals **Credits:** 4
- CIS 209 - Computer Programming for Engineers **Credits:** 3
- CIS 570 - Introduction to Formal Language Theory **Credits:** 3

Statistics Course

- STAT 510 - Introductory Probability and Statistics I **Credits:** 3
- STAT 610 - Introduction to Mathematical Statistics I **Credits:** 3

Calculus I Course

Choose one from the following

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 250 - Mathematical Scholars Calculus 1 **Credits:** 4

Calculus II Course

Choose one from the following

- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- MATH 251 - Mathematical Scholars Calculus 2 **Credits:** 4

Intermediate Courses: 10-11 Credit Hours

Choose either the Traditional or Scholar Option.

Traditional Option

- MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
- MATH 340 - Elementary Differential Equations **Credits:** 4

Linear Algebra Course

Choose one from the following

- MATH 515 - Introduction to Linear Algebra **Credits:** 3
- MATH 551 - Applied Matrix Theory **Credits:** 3

Scholar Option

The Scholar Option combines the three courses from the Traditional Option into a two course sequence. Completion of MATH 350 from the Scholar Option without MATH 351 will satisfy the Linear Algebra Course requirement of the Traditional Option.

- MATH 350 - Mathematical Scholars Calculus 3 **Credits:** 5
- MATH 351 - Mathematical Scholars Calculus 4 **Credits:** 5

Advanced Courses: 6 Credit Hours

Choose an algebra and analysis course from the options.

Algebra Course

Choose one from the following

- MATH 511 - Introduction to Algebraic Systems **Credits:** 3
- MATH 512 - Introduction to Modern Algebra **Credits:** 3

Analysis Course

Choose one from the following

- MATH 520 - Foundations of Analysis **Credits:** 3
- MATH 633 - Advanced Calculus I **Credits:** 3

Math Electives: 12 Credit Hours

Choose 12 additional credits from mathematics courses numbered 400 and above.

- MATH 498 - Honors Project **Credits:** 3
- MATH 499 - Undergraduate Topics in Mathematics **Credits:** 1-18
- MATH 500 - Mathematical Theory of Interest **Credits:** 3
- MATH 501 - Mathematical Foundations of Actuarial Science **Credits:** 3
- MATH 510 - Discrete Mathematics **Credits:** 3
- MATH 512 - Introduction to Modern Algebra **Credits:** 3
- MATH 515 - Introduction to Linear Algebra **Credits:** 3
- MATH 521 - The Real Number System **Credits:** 3
- MATH 540 - Advanced Ordinary Differential Equations **Credits:** 3
- MATH 560 - Introduction to Topology **Credits:** 3
- MATH 570 - History of Mathematics **Credits:** 3
- MATH 572 - Foundations of Geometry **Credits:** 3
- MATH 591 - Topics in Mathematics for Teachers **Credits:** 1-3
- MATH 599 - Topics in Mathematics **Credits:** 1-3
- MATH 615 - Introduction to Digital Image Processing **Credits:** 3
- MATH 620 - Convex Optimization for Data Science **Credits:** 3
- MATH 630 - Introduction to Complex Analysis **Credits:** 3
- MATH 632 - Elementary Partial Differential Equations **Credits:** 3
- MATH 633 - Advanced Calculus I **Credits:** 3
- MATH 634 - Advanced Calculus II **Credits:** 3
- MATH 635 - Dynamics, Chaos, and Fractals **Credits:** 3
- MATH 655 - Elementary Numerical Analysis I **Credits:** 3
- MATH 656 - Elementary Numerical Analysis II **Credits:** 3
- MATH 670 - Mathematical Modeling **Credits:** 3
- MATH 700 - Set Theory and Logic **Credits:** 3
- MATH 704 - Introduction to the Theory of Groups **Credits:** 3
- MATH 705 - Computational Math **Credits:** 3
- MATH 706 - Theory of Numbers **Credits:** 3
- MATH 707 - Theory of Numbers II **Credits:** 3
- MATH 710 - Introduction to Category Theory **Credits:** 3
- MATH 711 - Category Theory **Credits:** 3
- MATH 713 - Advanced Applied Matrix Theory **Credits:** 3
- MATH 715 - Applied Mathematics I **Credits:** 3
- MATH 716 - Applied Mathematics II **Credits:** 3
- MATH 721 - Introduction to Real Analysis **Credits:** 3
- MATH 722 - Introduction to Functions of Several Variables **Credits:** 3
- MATH 723 - Complex Functions **Credits:** 3
- MATH 725 - The Mathematics of Data and Networks I **Credits:** 3
- MATH 726 - The Mathematics of Data and Networks II **Credits:** 3
- MATH 730 - Abstract Algebra I **Credits:** 3

- MATH 731 - Abstract Algebra II **Credits:** 3
- MATH 740 - Calculus of Variation **Credits:** 3
- MATH 745 - Ordinary Differential Equations **Credits:** 3
- MATH 755 - Dynamic Modeling Processes **Credits:** 3
- MATH 760 - Introduction to Probability Theory **Credits:** 3
- MATH 770 - Introduction to Topology/Geometry I **Credits:** 3
- MATH 771 - Introduction to Topology/Geometry II **Credits:** 3
- MATH 772 - Elementary Differential Geometry **Credits:** 3
- MATH 789 - Combinatorial Analysis **Credits:** 3
- MATH 791 - Topics in Mathematics for Secondary School Teachers **Credits:** 3
- MATH 799 - Topics in Mathematics **Credits:** .5-3

BS Natural and Quantitative Restricted Electives: 3-5 Credit Hours

One course in the following at any level.

Natural Science course Credits: 3-5

BS Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Minor

Mathematics Minor

Students interested in applied or pure mathematics to compliment their major area of study may persue a minor in mathematics.

Requirements

Introductory courses: 4 credit hours

- MATH 222 - Analytic Geometry and Calculus III **Credits:** 4

Choose 2 of the following 3 options: 6 credit hours

- MATH 506 - Introduction to Number Theory **Credits:** 3
  OR
- MATH 511 - Introduction to Algebraic Systems **Credits:** 3
  OR
- MATH 512 - Introduction to Modern Algebra **Credits:** 3
- MATH 515 - Introduction to Linear Algebra **Credits:** 3
  OR
- MATH 551 - Applied Matrix Theory **Credits:** 3
- MATH 520 - Foundations of Analysis **Credits:** 3
  OR
- MATH 633 - Advanced Calculus I **Credits:** 3
  OR
- MATH 630 - Introduction to Complex Analysis **Credits:** 3

Additional 6 credit hours

Select from the following:

- MATH 340 - Elementary Differential Equations **Credits:** 4
- STAT 510 - Introductory Probability and Statistics I **Credits:** 3
  OR
- STAT 610 - Introduction to Mathematical Statistics I **Credits:** 3
- Any mathematics course or courses at the 500 level or above, including the courses not chosen above but excluding credit for both MATH 511 & MATH 512, both MATH 551 & MATH 515 or both MATH 520 & MATH 633 **Credits:** 6

Note

Students must earn a grade of C or better in each MATH and STAT course used to satisfy requirements for the minor.

Total Hours Required for Minor: 16

Undergraduate Certificate

Quantitative Techniques of Data Science Undergraduate Certificate

Completion of this certificate will provide training in the theory and practice of data analytics, including both technical skills and social and ethical considerations.

Requirements (15 credits)

Mathematical Background (3 credits)

- MATH 620 - Convex Optimization for Data Science **Credits:** 3

Statistics Background (3 credits)

- STAT 705 - Regression and Analysis of Variance **Credits:** 3

Data Science in Context (3 credits)

Choose one of the following:

- GWSS 435 - Race/Sex/Science **Credits:** 3
- HIST 320 - History of Technology **Credits:** 3
- HIST 519 - Science and Technology in the United States **Credits:** 3
- PHILO 386 - Philosophy of Computer Science and Software Engineering **Credits:** 3
- CRIM 550 - Cybercrime, Security, and Society **Credits:** 3

Advanced Techniques for Data Science (6 credits)

- MATH 725 - The Mathematics of Data and Networks I **Credits:** 3
- MATH 726 - The Mathematics of Data and Networks II **Credits:** 3
- STAT 745 - Statistical Graphics **Credits:** 3
- STAT 760 - Optimization for Data Science **Credits:** 3
- STAT 761 - Discrete Optimization and Scalability for Data Science **Credits:** 3
- STAT 764 - Applied Spatio-Temporal Statistics **Credits:** 3
- STAT 766 - Applied Data Mining/Machine Learning and Predictive Analytics **Credits:** 3
- STAT 768 - Applied Bayesian Modeling and Prediction **Credits:** 3
- IMSE 785 - Big Data Analytics **Credits:** 3
- CC 535 - Applied Data Science **Credits:** 3
- CIS 531 - Introduction to Programming Techniques for Data Science and Analytics **Credits:** 3
    - Topics courses that address Data Science with the approval of the Certificate Coordinator.
    - CIS Foundations of Data Science and Data Science in Practice will be included once they have an official course number and are approved.

Total Hours Required: 15

Other Program Choices

Mathematics - Actuarial Mathematics (BA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ENGL 100 Expository Writing I	3	**KSC 010**

MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
First Semester Language	3	**KSC 060**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 14		
Semester 2		
CIS 209 - Computer Programming for Engineers	3	
COMM 106 -Public Speaking I	3	**KSC 020**
MATH 221 - Analytic Geometry and Calculus II	4	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Second Semester Language	3	**KSC 060**
Total Credits: 16		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 222 - Analytic Geometry and Calculus III	4	
Physical & Natural Sciences Requirement	5	**KSC 040**
Third Semester Language	3	
Total Credits: 15		
Semester 2		
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Arts & Sciences Fine Arts	3	

Arts & Sciences Non-Quantitative Social Science	3		
Fourth Semester Language	3		
MATH 340 - Elementary Differential Equations	4		
Total Credits: 16			
Third Year			
Semester 1			
Arts & Sciences Outside Concentration	3		
Arts & Sciences US Multicultural Overlay	3		
MATH 500 - Mathematical Theory of Interest	3		
MATH 551 Applied Matrix Theory	3		
STAT 610 - Introduction to Mathematical Statistics I	3		
Total Credits: 15			
Semester 2			
Arts & Sciences Outside Concentration	4		
Arts & Sciences Global Perspectives Overlay	4		
MATH 501 - Mathematical Foundations of Actuarial Science	3		
STAT 611 - Introduction to Mathematical Statistics II	3		
Total Credits: 14			
Fourth Year			
Semester 1			
Arts & Sciences Ethical Reasoning Overlay	3		
Arts & Sciences Outside Concentration	3		

Arts & Sciences Humanities	3	
MATH 705 - Computational Math	3	
STAT 705 - Regression and Analysis of Variance	3	
Total Credits: 15		
Semester 2		
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective	9	
MATH 510 - Discrete Mathematics	3	
Total Credits: 15		
Total Program Hours: 120		

Mathematics - Actuarial Mathematics (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 14		
Semester 2		

Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
CIS 209 - Computer Programming for Engineers	3	
COMM 106 - Public Speaking I	3	**KSC 020**
MATH 221 - Analytic Geometry and Calculus II	4	
Total Credits: 16		
Second Year		
Semester 1		
Physical & Natural Sciences Requirement	5	**KSC 040**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 222 - Analytic Geometry and Calculus III	4	
Total Credits: 15		
Semester 2		
Arts & Sciences Physical & Natural Sciences	3	
Arts & Sciences Fine Arts	3	
Arts & Sciences Non-Quantitative Social Science	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
MATH 340 - Elementary Differential Equations	4	
Total Credits: 16		
Third Year		
Semester 1		

Arts & Sciences Outside Concentration	6	
MATH 500 - Mathematical Theory of Interest	3	
MATH 551 - Applied Matrix Theory	3	
STAT 610 - Introduction to Mathematical Statistics I	3	
Total Credits: 15		
Semester 2		
Free Electives	8	
MATH 501 - Mathematical Foundations of Actuarial Science	3	
STAT 611 - Introduction to Mathematical Statistics II	3	
Total Credits: 14		
Fourth Year		
Semester 1		
Arts & Sciences Ethical Reasoning Overlay	3	
Free Electives	6	
MATH 705 - Computational Math	3	
STAT 705 - Regression and Analysis of Variance	3	
Total Credits: 15		
Semester 2		
Arts & Sciences Global Perspectives Overlay	3	
Arts & Sciences US Multicultural Overlay	3	
Free Elective	6	
MATH 510 - Discrete Mathematics	3	

Total Credits: 15		
Total Program Hours: 120		

Mathematics - Applied Mathematics (BA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
Social & Behavioral Sciences Requirement	3	**KSC 050**
First Semester Language	3	**KSC 060**
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 14		
Semester 2		
Social & Behavioral Sciences Requirement	3	**KSC 050**
Second Semester Language	3	
CIS 209 - Computer Programming for Engineers	3	
COMM 106 - Public Speaking I	3	**KSC 020**
MATH 221 - Analytic Geometry and Calculus II	4	
Total Credits: 16		
Second Year		
Semester 1		

Physical & Natural Sciences Requirement	4	**KSC 040**
Third Semester Language	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 222 - Analytic Geometry and Calculus III	4	
STAT 510 - Introductory Probability and Statistics I	3	
Total Credits: 17		
Semester 2		
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Physical & Natural Sciences Requirement	3	
Fourth Semester Language	3	
MATH 340 -Elementary Differential Equations	4	
Total Credits: 13		
Third Year		
Semester 1		
Arts & Sciences Outside Concentration	4	
Arts & Sciences Ethical Reasoning Overlay	3	
Arts & Sciences non-Quantitative Social Science	3	
MATH 510 - Discrete Mathematics	3	
MATH 551 - Applied Matrix Theory	3	
Total Credits: 16		
Semester 2		
Arts & Sciences Global Perspectives Overlay	3	

Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective	4	
MATH 615 - Introduction to Digital Image Processing	3	
Total Credits: 13		
Fourth Year		
Semester 1		
Arts & Sciences Outside Concentration	3	
Arts & Sciences Humanities	3	**KSC 060**
Arts & Sciences US Multicultural Overlay	3	
MATH 540 - Advanced Ordinary Differential Equations	3	
MATH 715 - Applied Mathematics I	3	
Total Credits: 15		
Semester 2		
Free Elective	4	
Arts & Sciences Outside Concentration	3	
Arts & Sciences Fine Arts	3	
MATH 760 - Introduction to Probability Theory	3	
MATH 620 - Convex Optimization for Data Science 3		
Total Credits: 16		
Total Program Hours: 120		

Mathematics - Applied Mathematics (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 14	14	
Semester 2		
Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
CIS 209 - Computer Programming for Engineers	3	
COMM 106 - Public Speaking I	3	**KSC 020**
MATH 221 - Analytic Geometry and Calculus II	4	
Total Credits: 16		
Second Year		
Semester 1		
Physical & Natural Sciences Requirement	5	**KSC 040**
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 222 - Analytic Geometry and Calculus III	4	
STAT 510 - Introductory Probability and Statistics I	3	
Total Credits: 15		

Semester 2		
Arts & Sciences non-Quantitative Social Science	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Arts & Sciences Outside Concentration	5	
MATH 340 - Elementary Differential Equations	4	
Total Credits: 15		
Third Year		
Semester 1		
Arts & Sciences Outside Concentration	4	
Arts & Sciences Fine Arts	3	
Arts & Sciences Global Perspectives Overlay	3	
MATH 510 - Discrete Mathematics	3	
MATH 551 -Applied Matrix Theory	3	
Total Credits: 16		
Semester 2		
Arts & Sciences Physical & Natural Sciences	4	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective	3	
MATH 615 - Introduction to Digital Image Processing	3	
Total Credits: 13		
Fourth Year		

Semester 1		
Arts & Sciences US Multicultural Overlay	3	
Free Electives	6	
MATH 540 - Advanced Ordinary Differential Equations	3	
MATH 715 - Applied Mathematics I	3	
Total Credits: 15		
Semester 2		
Free Electives	4	
Arts & Sciences Outside Concentration	3	
Arts & Sciences Ethical Reasoning Overlay	3	
MATH 620 - Convex Optimization for Data Science	3	
MATH 760 - Introduction to Probability Theory	3	
Total Credits: 16		
Total Program Hours: 120		

Mathematics - Pure Mathematics (BA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
Social & Behavioral Sciences Requirement	3	**KSC 050**
First semester language	3	**KSC 060**
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 199 - Undergraduate Mathematics Seminar	1-5	

MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Total Credits: 14		
Semester 2		
Social & Behavioral Sciences Requirement	3	**KSC 050**
Second semester language	3	
CIS 209 - Computer Programming for Engineers	3	
COMM 106 -Public Speaking I	3	**KSC 020**
MATH 221 - Analytic Geometry and Calculus II	4	
Total Credits: 16		
Second Year		
Semester 1		
Physical & Natural Sciences Requirement	4	**KSC 040**
Third semester language	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 222 - Analytic Geometry and Calculus III	4	
STAT 510 - Introductory Probability and Statistics I	3	
Total Credits: 17		
Semester 2		
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Physical & Natural Sciences Requirement	3	
Fourth semester language	3	
MATH 340 - Elementary Differential Equations	4	

MATH 499 - Undergraduate Topics in Mathematics	1-18	
Total Credits: 14		
Third Year		
Semester 1		
Arts & Sciences Humanities	4	**KSC 060**
Arts & Sciences Fine Arts	4	
Arts & Sciences Ethical Reasoning Overlay	3	
MATH 499 - Undergraduate Topics in Mathematics	1-18	
MATH 551 - Applied Matrix Theory	3	
Total Credits: 15		
Semester 2		
Arts & Sciences Outside Concentration	4	
Arts & Sciences Global Perspectives Overlay	3	
Arts & Sciences non-Quantitative Social Science	3	
MATH 510 - Discrete Mathematics	3	
MATH 633 - Advanced Calculus I	3	
Total Credits: 16		
Fourth Year		
Semester 1		
Arts & Sciences Outside Concentration	3	
Arts & Sciences US Multicultural Overlay	3	
MATH 499 - Undergraduate Topics in Mathematics	1-18	

MATH 511 -Introduction to Algebraic Systems **OR**	3	
MATH 512 -Introduction to Modern Algebra	3	
MATH 540 - Advanced Ordinary Differential Equations	3	
MATH 630 - Introduction to Complex Analysis	3	
Total Credits: 16		
Semester 2		
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective	3	
Arts & Sciences US Multicultural Overlay	3	
MATH 560 -Introduction to Topology	3	
Total Credits: 12		
Total Program Hours: 120		

Mathematics - Pure Mathematics (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
MATH 220 -Analytic Geometry and Calculus I	4	**KSC 030**
ENGL 100 - Expository Writing I	3	**KSC 010**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 14		

Semester 2		
Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
CIS 209 - Computer Programming for Engineers	3	
COMM 106 - Public Speaking I	3	**KSC 020**
MATH 221 - Analytic Geometry and Calculus II	4	
Total Credits: 16		
Second Year		
Semester 1		
Physical & Natural Sciences Requirement	5	**KSC 040**
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 222 -Analytic Geometry and Calculus III	4	
STAT 510 - Introductory Probability and Statistics I	3	
Total Credits: 15		
Semester 2		
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Arts & Sciences Physical & Natural Sciences	5	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
MATH 499 - Undergraduate Topics in Mathematics	1-18	
MATH 340 - Elementary Differential Equations	4	
Total Credits: 16		

Third Year		
Semester 1		
Arts & Sciences Outside Concentration	5	
Arts & Sciences non-Quantitative Social Science	3	
Arts & Sciences Fine Arts	3	
MATH 499 - Undergraduate Topics in Mathematics	1-18	
MATH 551 - Applied Matrix Theory	3	
Total Credits: 15		
Semester 2		
Arts & Sciences Global Perspectives Overlay	3	
Free Elective	5	
MATH 633 - Advanced Calculus I	3	
MATH 540 - Advanced Ordinary Differential Equations	3	
Total Credits: 14		
Fourth Year		
Semester 1		
Arts & Sciences Ethical Reasoning Overlay	3	
Arts & Sciences US Multicultural Overlay	3	
MATH 499 - Undergraduate Topics in Mathematics	1-18	
MATH 510 - Discrete Mathematics	3	
MATH 511 - Introduction to Algebraic Systems - **OR**	3	
MATH 512 -Introduction to Modern Algebra	3	
MATH 630 - Introduction to Complex Analysis	3	

Total Credits: 16			
Semester 2			
Free Elective	11		
MATH 560 - Introduction to Topology	3		
Total Credits: 14			
Total Program Hours: 120			

Media and Communication

Bachelor of Arts

Advertising and Public Relations (BA)

The undergraduate degree in Advertising and Public Relations prepares students to influence and inform key audiences and publics through promotional and public image communications strategies. Students will gain industry-focused knowledge and skills in strategic writing and planning, content creation and distribution, relationship management, data-driven decision-making, diversity in media, account management, media planning, media relations, and reputation management. Additionally, hands-on training is prioritized through internship experience and credentialing from industry-recognized certifications in high career growth areas such as social media and digital media. Advertising and Public Relations students will be prepared for a range of careers in agency, nonprofit, corporate, government, community, advocacy, and start-up environments. Graduates accept positions as advertising account executives, public relations and communications specialists, brand managers, fundraising and development officers, publicists, social media managers, copywriters, and more.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- MC 100 - SMC Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except for School of Media and Communication** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for **except for MC and COMM**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Foundations: 5 Credit Hours

Writing Foundation I

- MC 130 - Writing Conventions and Mechanics **Credits:** 1

Writing Foundation II

Complete 2 credits from the following courses:

- MC 131 - Elements of Media Writing **Credits:** 1
- MC 132 - Writing Styles and Audiences **Credits:** 1
- AGCOM 110 - Introduction to Agricultural Communications **Credits:** 2

Content Creator Studio

Complete 2 credits from the following courses:

- MC 191 - Audio Essentials **Credits:** 1
- MC 192 - Photography Essentials **Credits:** 1
- MC 193 - Video Production Essentials **Credits:** 1
- MC 194 - Social Media Essentials **Credits:** 1
- MC 195 - Creative Design **Credits:** 1
- MC 196 - Content Management for Distribution **Credits:** 1
- MC 197 - Podcasting Essentials **Credits:** 1

ADPR Requirements: 27 Credit Hours

- MC 120 - Principles of Advertising **Credits:** 3
- MC 180 - Principles of Public Relations **Credits:** 3
- MC 280 - Writing for Advertising & Public Relations **Credits:** 3
- MC 396 - Research for Advertising and Public Relations **Credits:** 3
- MC 466 - Media Law and Ethics **Credits:** 3
- MC 482 - Ideation, Strategy and Planning for Advertising and Public Relations **Credits:** 3
- MC 491 - Mass Communication Internship **Credits:** 1-3
- MC 581 - Campaigns in Advertising and Public Relations **Credits:** 3
- MC 612 - Diversity in Media **Credits:** 3
  OR
- COMM 470 - Building Social and Cultural Connections **Credits:** 3

ADPR Elective: 3 Credit Hours

Choose one course from the following:

- MC 370 - Social Media Strategy & Management **Credits:** 3
- MC 374 - Social Media Content Development **Credits:** 3
- MC 375 - Social Media Influencing & Personal Branding **Credits:** 3
- MC 390 - Topics in Journalism and Mass Communications **Credits:** 1-3
- MC 409 - Advanced Strategic Communications Writing **Credits:** 3
- MC 445 - Digital Brand Strategy **Credits:** 3
- MC 446 - Media Planning **Credits:** 3
- MC 451 - Health Communication **Credits:** 3
- MC 477 - Travel and Tourism Strategic Communications **Credits:** 3
- MC 478 - Entertainment and Strategic Communications **Credits:** 3
- MC 479 - Strategic Communications and Sports **Credits:** 3
- MC 490 - Topics in Journalism and Mass Communications **Credits:** 1-3
- MC 612 - Diversity in Media **Credits:** 3
- MC 623 - Communicating in Global Markets **Credits:** 3
- MC 750 - Strategic Health Communication **Credits:** 3
- MC 760 - Issues, Risk, and Reputation **Credits:** 3
- MC 782 - Strategic Communications Management **Credits:** 3

- COMM 526 - Persuasion **Credits:** 3
- COMM 535 - Communication and Leadership **Credits:** 3

ADPR Specialization: 9 Credit Hours

Choose one specialization from the following (courses used to fulfill the ADPR Elective may not also be used to fulfill Specialization):

Digital and Social Media Specialization

- MC 370 - Social Media Strategy & Management **Credits:** 3
- MC 374 - Social Media Content Development **Credits:** 3
- MC 445 - Digital Brand Strategy **Credits:** 3

Creative Design Specialization

- MC 301 - Photo & Video Storytelling **Credits:** 3
- MC 316 - Interactive Journalism Design **Credits:** 3
- MC 374 - Social Media Content Development **Credits:** 3

Advanced ADPR Specialization

- MC 445 - Digital Brand Strategy **Credits:** 3
- MC 446 - Media Planning **Credits:** 3
- MC 623 - Communicating in Global Markets **Credits:** 3

Lifestyle, Sports & Entertainment Specialization

- MC 375 - Social Media Influencing & Personal Branding **Credits:** 3
- MC 478 - Entertainment and Strategic Communications **Credits:** 3
- MC 479 - Strategic Communications and Sports **Credits:** 3

BA Arts, Humanities, and Social Sciences Requirement: 6 Credit Hours

3 credit hours in each of the following, with at least 6 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 4-16 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Communication Studies (BA)

The communication studies program develops the skills and perspectives of forward-thinking, culturally competent, and ethical leaders. By developing the human and digital skills needed in today's and tomorrow's workplaces, relationships, and communities, students emerge ready to pursue successful careers, build healthy relationships, and be involved and lead in their communities. Communication studies students build skills in practices such as group communication, organizational communication, conflict management, leadership, interpersonal communication, persuasion, and presentation. Students also increase their ability to analyze communication in different social, political, and organizational settings. The communication studies degree prepares students for a variety of careers, including those in law, government, advocacy, business, sales, emerging technology, and more.

In addition to the general university and college requirements for the BA/BS degree, undergraduate majors in communication studies take 43 credit hours of coursework in the A.Q. Miller School of Media and Communication. All majors complete 1 credit hour of orientation, 3 credit hours in innovation and creation, 12 credit hours in the foundations of communication, 3 credit hours in methods, 3 credit hours of a capstone experience, and 21-24 credit hours of two specializations.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- MC 100 - SMC Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except COMM and MC,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for COMM and MC) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC 030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Foundations of Communication: 12 Credit Hours

- COMM 320 - Theories of Human Communication **Credits:** 3
- COMM 330 - Rhetoric in Civic Life **Credits:** 3
- COMM 470 - Building Social and Cultural Connections **Credits:** 3 *Fulfills US Multicultural Overlay*
- MC 265 - Innovations in Media and Communication **Credits:** 3

Innovation and Creation: 3 Credit Hours

Writing Conventions: 1 Credit Hour

- MC 130 - Writing Conventions and Mechanics **Credits:** 1

Content Creator Studio: 2 Credit Hours

Choose two of the following:

- MC 131 - Elements of Media Writing **Credits:** 1
- MC 132 - Writing Styles and Audiences **Credits:** 1
- MC 191 - Audio Essentials **Credits:** 1
- MC 192 - Photography Essentials **Credits:** 1
- MC 193 - Video Production Essentials **Credits:** 1
- MC 194 - Social Media Essentials **Credits:** 1
- MC 195 - Creative Design **Credits:** 1
- MC 196 - Content Management for Distribution **Credits:** 1
- MC 197 - Podcasting Essentials **Credits:** 1

Methods: 3 Credit Hours

Choose one of the following:

- COMM 431 - Criticism of Public Discourse **Credits:** 3
- MC 316 - Interactive Journalism Design **Credits:** 3
- MC 396 - Research for Advertising and Public Relations **Credits:** 3

Application/Capstone: 3 Credit Hours

Choose one of the following:

- COMM 419 - Intercollegiate Forensics, Debate, or Mock Trial **Credits:** 3
- COMM 551 - Senior Honors Thesis **Credits:** 3
- COMM 575 - Internship in Communication Studies **Credits:** 1-3

Specializations: 21-24 Credit Hours

Complete two specializations totaling 21-24 credit hours; courses can count toward multiple specializations.

Communication, Identity, and Relationships: 12 Credit Hours

Take the following two courses:

- COMM 130 - Interpersonal Communication **Credits:** 3
- COMM 420 - Gender Communication **Credits:** 3

AND choose two from the following:

- COMM 210 - Forensics, Debate, or Mock Trial Participation **Credits:** 0-1
- COMM 323 - Nonverbal Communication **Credits:** 3
- COMM 326 - Group Communication **Credits:** 3
- COMM 442 - Theories of Human Communication Networks **Credits:** 3
- COMM 465 - Communication and Conflict **Credits:** 3
- COMM 480 - Intercultural Communication **Credits:** 3
- COMM 526 - Persuasion **Credits:** 3

Organizational and Career Communication: 12 Credit Hours

Take the following two courses:

- COMM 326 - Group Communication **Credits:** 3
- COMM 425 - Organizational Communication **Credits:** 3

AND two courses from the following:

- COMM 210 - Forensics, Debate, or Mock Trial Participation **Credits:** 0-1
- COMM 311 - Business and Professional Speaking **Credits:** 3
- COMM 328 - Professional Interviewing **Credits:** 3
- COMM 442 - Theories of Human Communication Networks **Credits:** 3
- COMM 480 - Intercultural Communication **Credits:** 3
- COMM 535 - Communication and Leadership **Credits:** 3
- COMM 537 - Negotiation and Communication **Credits:** 3
- COMM 552 - Coaching and Mentoring **Credits:** 3
- COMM 632 - Innovation Cultures **Credits:** 3

Political and Civic Advocacy and Communication: 12 Credit Hours

Take the following two courses:

- COMM 435 - Political Communication **Credits:** 3
- COMM 545 - Communication in Democracy **Credits:** 3

AND two courses from the following:

- COMM 210 - Forensics, Debate, or Mock Trial Participation **Credits:** 0-1
- COMM 325 - Argumentation and Debate **Credits:** 3
- COMM 434 - Rhetoric and Social Movements **Credits:** 3
- COMM 465 - Communication and Conflict **Credits:** 3
- COMM 480 - Intercultural Communication **Credits:** 3
- COMM 526 - Persuasion **Credits:** 3
- COMM 535 - Communication and Leadership **Credits:** 3
- MC 576 - Mass Communications and Political Campaigns **Credits:** 3

Legal Advocacy and Communication: 12 Credit Hours

Take the following two courses:

- COMM 260 - Introduction to Trial Advocacy **Credits:** 3

- COMM 475 - Legal Communication **Credits:** 3

AND choose two of the following courses:

- COMM 210 - Forensics, Debate, or Mock Trial Participation **Credits:** 0-1
- COMM 325 - Argumentation and Debate **Credits:** 3
- COMM 430 - Freedom of Speech **Credits:** 3
- COMM 480 - Intercultural Communication **Credits:** 3
- COMM 526 - Persuasion **Credits:** 3
- COMM 537 - Negotiation and Communication **Credits:** 3
- MC 466 - Media Law and Ethics **Credits:** 3

Coaching and Consulting: 12 Credit Hours

Take the following two courses:

- COMM 480 - Intercultural Communication **Credits:** 3
- COMM 552 - Coaching and Mentoring **Credits:** 3

AND choose two courses from the following:

- COMM 210 - Forensics, Debate, or Mock Trial Participation **Credits:** 0-1
- COMM 311 - Business and Professional Speaking **Credits:** 3
- COMM 323 - Nonverbal Communication **Credits:** 3
- COMM 326 - Group Communication **Credits:** 3
- COMM 328 - Professional Interviewing **Credits:** 3
- COMM 465 - Communication and Conflict **Credits:** 3
- COMM 526 - Persuasion **Credits:** 3
- MC 445 - Digital Brand Strategy **Credits:** 3

Emerging Technology and Networked Communication: 12 Credit Hours

Take the following two courses:

- COMM 332 - Communication and Technology **Credits:** 3
- COMM 632 - Innovation Cultures **Credits:** 3

AND choose two courses from the following:

- COMM 210 - Forensics, Debate, or Mock Trial Participation **Credits:** 0-1
- COMM 130 - Interpersonal Communication **Credits:** 3
- COMM 420 - Gender Communication **Credits:** 3
- COMM 425 - Organizational Communication **Credits:** 3
- COMM 442 - Theories of Human Communication Networks **Credits:** 3
- COMM 480 - Intercultural Communication **Credits:** 3
- MC 370 - Social Media Strategy & Management **Credits:** 3
- MC 506 - Social media News Strategies **Credits:** 3

Truth, Information, and Freedom of Speech: 12 Credit Hours

Take the following two courses:

- COMM 430 - Freedom of Speech **Credits:** 3
- MC 466 - Media Law and Ethics **Credits:** 3

AND choose two courses from the following:

- COMM 210 - Forensics, Debate, or Mock Trial Participation **Credits:** 0-1

- COMM 332 - Communication and Technology **Credits:** 3
- COMM 434 - Rhetoric and Social Movements **Credits:** 3
- COMM 442 - Theories of Human Communication Networks **Credits:** 3
- COMM 526 - Persuasion **Credits:** 3
- COMM 545 - Communication in Democracy **Credits:** 3
- MC 160 - Principles of Journalism **Credits:** 3
- MC 612 - Diversity in Media **Credits:** 3

BA Arts, Humanities, and Social Sciences Requirement: 12 Credit Hours

3 credit hours in each of the following, with at least 6 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 6 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 0-52 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

News & Sports Media (BA)

The News & Sports Media degree prepares future journalists and media professionals to share nonfiction stories ethically, professionally, and creatively on any media platform. Students develop essential skills in storytelling content creation and distribution such as writing and reporting, broadcasting, social media news strategies, podcasting, sports journalism, and digital photo and video. Students are exposed to journalistic storytelling tools such as social media platforms, drones, streaming video, and other developing technologies. Students further specialize their degree by pursuing a concentration in a specific content area such as news, sports, photography, or innovative design in which they develop advanced skills. They also personalize their degree with an outside concentration. The hands-on nature of courses prepares students to pursue careers such as photojournalism, media production, sports broadcasting, news reporting, data journalism, and more.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- MC 100 - SMC Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except for School of Media and Communication** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for COMM or MC) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Foundations: 8 Credit Hours

Writing Foundation I

- MC 130 - Writing Conventions and Mechanics **Credits:** 1

Writing Foundation II

Complete 2 credits from the following courses:

- AGCOM 110 - Introduction to Agricultural Communications **Credits:** 2
- MC 131 - Elements of Media Writing **Credits:** 1
- MC 132 - Writing Styles and Audiences **Credits:** 1

Content Creator Studio I

Complete the following 3 credits:

- MC 191 - Audio Essentials **Credits:** 1
- MC 192 - Photography Essentials **Credits:** 1
- MC 193 - Video Production Essentials **Credits:** 1

Content Creator Studio II

Complete 2 credits from the following courses:

- MC 194 - Social Media Essentials **Credits:** 1
- MC 195 - Creative Design **Credits:** 1
- MC 196 - Content Management for Distribution **Credits:** 1
- MC 197 - Podcasting Essentials **Credits:** 1

NSM Requirements: 21 Credit Hours

- MC 160 - Principles of Journalism **Credits:** 3
- MC 200 - News Reporting and Writing Across Platforms **Credits:** 3
- MC 301 - Photo & Video Storytelling **Credits:** 3
- MC 466 - Media Law and Ethics **Credits:** 3
- MC 580 - Storytelling Across Platforms **Credits:** 3
- COMM 470 - Building Social and Cultural Connections **Credits:** 3

Complete 3 credits from the following two courses:

- MC 485 - Media Practicum **Credits:** 1
- MC 491 - Mass Communication Internship **Credits:** 1-3

NSM Electives: 6 Credit Hours

Choose two courses from the following:

- COMM 435 - Political Communication **Credits:** 3
- MC 306 - Photographic Storytelling **Credits:** 3
- MC 310 - What's the Score? Sports Media in Society **Credits:** 3
- MC 316 - Interactive Journalism Design **Credits:** 3
- MC 331 - Photography Commercial Imaging **Credits:** 3
- MC 332 - Photography and Digital Storytelling Abroad **Credits:** 3
- MC 340 - Editing for Print and Online Media **Credits:** 3
- MC 341 - Immersive Digital Storytelling **Credits:** 3
- MC 370 - Social Media Strategy & Management **Credits:** 3
- MC 390 - Topics in Journalism and Mass Communications **Credits:** 1-3
- MC 403 - Advanced Reporting and Writing Across Platforms **Credits:** 3
- MC 405 - Perfect Podcasting **Credits:** 3
- MC 406 - Multiplatform News Reporting **Credits:** 3
- MC 410 - Sports Reporting **Credits:** 3
- MC 416 - Photojournalism **Credits:** 3
- MC 426 - Magazine Writing, Editing and Design **Credits:** 3
- MC 469 - Drone Photography and Video **Credits:** 3
- MC 471 - Advanced Production **Credits:** 3
- MC 472 - Multiplatform News Production **Credits:** 3
- MC 479 - Strategic Communications and Sports **Credits:** 3
- MC 490 - Topics in Journalism and Mass Communications **Credits:** 1-3
- MC 498 - Media Portfolio **Credits:** 3
- MC 506 - Social media News Strategies **Credits:** 3
- MC 564 - History of Mass Communication **Credits:** 3
- MC 576 - Mass Communications and Political Campaigns **Credits:** 3

- MC 589 - Issues in Mass Communication **Credits:** 1-3
- MC 612 - Diversity in Media **Credits:** 3

NSM Specialization: 9 Credit Hours

Choose one specialization from the following (courses used to fulfill NSM Electives may not also be used to fulfill Specialization):

News Specialization

- MC 406 - Multiplatform News Reporting **Credits:** 3
- MC 472 - Multiplatform News Production **Credits:** 3
- MC 506 - Social media News Strategies **Credits:** 3

Sports Specialization

- MC 310 - What's the Score? Sports Media in Society **Credits:** 3
- MC 406 - Multiplatform News Reporting **Credits:** 3
- MC 410 - Sports Reporting **Credits:** 3

Photography Specialization

- MC 331 - Photography Commercial Imaging **Credits:** 3
- MC 416 - Photojournalism **Credits:** 3
- MC 306 - Photographic Storytelling **Credits:** 3
  or
- MC 332 - Photography and Digital Storytelling Abroad **Credits:** 3

Interactive Storytelling Specialization

- MC 316 - Interactive Journalism Design **Credits:** 3
- MC 341 - Immersive Digital Storytelling **Credits:** 3
- MC 426 - Magazine Writing, Editing and Design **Credits:** 3

BA Arts, Humanities, and Social Science Requirement: 3 Credit Hours

Any course or combination of courses in Fine Arts Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 8-21 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

A&S Common BA degree requirements met by the following:

- COMM 470
- A&S BA Fine Arts & Non-quantitative Social Science Quantitative Electives
- A&S BA Natural and Quantitatitve Restricted Electives

Bachelor of Science

Advertising and Public Relations (BS)

The undergraduate degree in Advertising and Public Relations prepares students to influence and inform key audiences and publics through promotional and public image communications strategies. Students will gain industry-focused knowledge and skills in strategic writing and planning, content creation and distribution, relationship management, data-driven decision-making, diversity in media, account management, media planning, media relations, and reputation management. Additionally, hands-on training is prioritized through internship experience and credentialing from industry-recognized certifications in high career growth areas such as social media and digital media. Advertising and Public Relations students will be prepared for a range of careers in agency, nonprofit, corporate, government, community, advocacy, and start-up environments. Graduates accept positions as advertising account executives, public relations and communications specialists, brand managers, fundraising and development officers, publicists, social media managers, copywriters, and more.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- MC 100 - SMC Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except for School of Media and Communication** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for **except for MC or COMM**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

Graduation requirement: Mininimum GPA of 2.5 in major.

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Foundations: 5 Credit Hours

Writing Foundation I

- MC 130 - Writing Conventions and Mechanics **Credits:** 1

Writing Foundation II

Choose two credits from the following:

- AGCOM 110 - Introduction to Agricultural Communications **Credits:** 2
- MC 131 - Elements of Media Writing **Credits:** 1
- MC 132 - Writing Styles and Audiences **Credits:** 1

Content Creator Studio

Choose two from the following:

- MC 191 - Audio Essentials **Credits:** 1
- MC 192 - Photography Essentials **Credits:** 1
- MC 193 - Video Production Essentials **Credits:** 1
- MC 194 - Social Media Essentials **Credits:** 1
- MC 195 - Creative Design **Credits:** 1
- MC 196 - Content Management for Distribution **Credits:** 1
- MC 197 - Podcasting Essentials **Credits:** 1

AD/PR Requirements: 27 Credit Hours

- MC 120 - Principles of Advertising **Credits:** 3
- MC 180 - Principles of Public Relations **Credits:** 3
- MC 280 - Writing for Advertising & Public Relations **Credits:** 3
- MC 482 - Ideation, Strategy and Planning for Advertising and Public Relations **Credits:** 3
- MC 396 - Research for Advertising and Public Relations **Credits:** 3
- MC 466 - Media Law and Ethics **Credits:** 3
- MC 491 - Mass Communication Internship **Credits:** 1-3
- MC 581 - Campaigns in Advertising and Public Relations **Credits:** 3

  Choose one of the following:
- COMM 470 - Building Social and Cultural Connections **Credits:** 3

  OR
- MC 612 - Diversity in Media **Credits:** 3

AD/PR Elective: 3 Credit Hours

Choose one course of the following:

- COMM 526 - Persuasion **Credits:** 3
- COMM 535 - Communication and Leadership **Credits:** 3
- MC 370 - Social Media Strategy & Management **Credits:** 3
- MC 374 - Social Media Content Development **Credits:** 3
- MC 375 - Social Media Influencing & Personal Branding **Credits:** 3
- MC 390 - Topics in Journalism and Mass Communications **Credits:** 1-3
- MC 409 - Advanced Strategic Communications Writing **Credits:** 3
- MC 445 - Digital Brand Strategy **Credits:** 3
- MC 446 - Media Planning **Credits:** 3
- MC 451 - Health Communication **Credits:** 3
- MC 477 - Travel and Tourism Strategic Communications **Credits:** 3
- MC 478 - Entertainment and Strategic Communications **Credits:** 3
- MC 479 - Strategic Communications and Sports **Credits:** 3
- MC 490 - Topics in Journalism and Mass Communications **Credits:** 1-3
- MC 589 - Issues in Mass Communication **Credits:** 1-3
- MC 612 - Diversity in Media **Credits:** 3
- MC 623 - Communicating in Global Markets **Credits:** 3
- MC 750 - Strategic Health Communication **Credits:** 3
- MC 760 - Issues, Risk, and Reputation **Credits:** 3
- MC 782 - Strategic Communications Management **Credits:** 3

AD/PR Specialization: 9 Credit Hours

Choose one specialization from the following:

Digital and Social Media Specialization

- MC 370 - Social Media Strategy & Management **Credits:** 3
- MC 374 - Social Media Content Development **Credits:** 3
- MC 445 - Digital Brand Strategy **Credits:** 3

Creative Design Specialization

- MC 301 - Photo & Video Storytelling **Credits:** 3
- MC 316 - Interactive Journalism Design **Credits:** 3
- MC 374 - Social Media Content Development **Credits:** 3

Advanced Ad & PR Specialization

- MC 445 - Digital Brand Strategy **Credits:** 3
- MC 446 - Media Planning **Credits:** 3
- MC 623 - Communicating in Global Markets **Credits:** 3

Lifestyle, Sports & Entertainment Specialization

- MC 375 - Social Media Influencing & Personal Branding **Credits:** 3
- MC 478 - Entertainment and Strategic Communications **Credits:** 3
- MC 479 - Strategic Communications and Sports **Credits:** 3

BS Natural and Quantitative Requirements: 12-15 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course Credits: 3-5

Quantitative course Credits: 3-4

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

BS Arts, Humanities, and Social Sciences Requirements: 3 Credit Hours

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Free Electives: 16 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Communication Studies (BS)

The communication studies program develops the skills and perspectives of forward-thinking, culturally competent, and ethical leaders. By developing the human and digital skills needed in today's and tomorrow's workplaces, relationships, and communities, students emerge ready to pursue successful careers, build healthy relationships, and be involved and lead in their communities. Communication studies students build skills in practices such as group communication, organizational communication, conflict management, leadership, interpersonal communication, persuasion, and presentation. Students also increase their ability to analyze communication in different social, political, and organizational settings. The communication studies degree prepares students for a variety of careers, including those in law, government, advocacy, business, sales, emerging technology, and more.

In addition to the general university and college requirements for the BA/BS degree, undergraduate majors in communication studies take 43 credit hours of coursework in the the A.Q. Miller School of Media and Communications. All majors complete 1 hour of orientation, 3 credit hours in innovation and creation, 12 credit hours in the foundations of communication, 3 credit hours in methods, 3 credit hours of a capstone experience, and 21-24 credit hours of two specializations.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- MC 100 - SMC Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except COMM and MC, etc**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for COMM and MC**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Program

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC 030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Foundation of Communication: 13 Credit Hours

- COMM 320 - Theories of Human Communication **Credits:** 3
- COMM 330 - Rhetoric in Civic Life **Credits:** 3
- COMM 470 - Building Social and Cultural Connections **Credits:** 3
- MC 100 - SMC Orientation **Credits:** 1 **Fulfills A&S Orientation requirement**
- MC 265 - Innovations in Media and Communication **Credits:** 3

Innovation and Creation: 3 Credit Hours

Writing Essentials: 1 Credit Hour

- MC 130 - Writing Conventions and Mechanics **Credits:** 1

Content Creator Studio: 2 Credit Hours

Choose two courses of the following:

- MC 131 - Elements of Media Writing **Credits:** 1
- MC 132 - Writing Styles and Audiences **Credits:** 1
- MC 191 - Audio Essentials **Credits:** 1
- MC 192 - Photography Essentials **Credits:** 1
- MC 193 - Video Production Essentials **Credits:** 1
- MC 194 - Social Media Essentials **Credits:** 1
- MC 195 - Creative Design **Credits:** 1
- MC 196 - Content Management for Distribution **Credits:** 1
- MC 197 - Podcasting Essentials **Credits:** 1

Methods: 3 Credit Hours

Choose one course of the following:

- COMM 431 - Criticism of Public Discourse **Credits:** 3
- MC 316 - Interactive Journalism Design **Credits:** 3
- MC 396 - Research for Advertising and Public Relations **Credits:** 3

Application/Capstone: 3 Credit Hours

Choose one course of the following:

- COMM 551 - Senior Honors Thesis **Credits:** 3
- COMM 575 - Internship in Communication Studies **Credits:** 1-3
- MC 491 - Mass Communication Internship **Credits:** 1-3

Specializations

Complete 2 specializations totaling 21-24 credit hours; courses can count toward multiple specializations.

Communication, Identity, and Relationships: 12 Credit Hours

Take the following two courses:

- COMM 130 - Interpersonal Communication **Credits:** 3
- COMM 420 - Gender Communication **Credits:** 3

AND choose two courses of the following:

- COMM 210 - Forensics, Debate, or Mock Trial Participation **Credits:** 0-1
- COMM 323 - Nonverbal Communication **Credits:** 3
- COMM 326 - Group Communication **Credits:** 3
- COMM 442 - Theories of Human Communication Networks **Credits:** 3
- COMM 465 - Communication and Conflict **Credits:** 3
- COMM 480 - Intercultural Communication **Credits:** 3
- COMM 526 - Persuasion **Credits:** 3

Organizational and Career Communication: 12 Credit Hours

Take the following two courses:

- COMM 326 - Group Communication **Credits:** 3
- COMM 425 - Organizational Communication **Credits:** 3

AND choose two courses of the following:

- COMM 210 - Forensics, Debate, or Mock Trial Participation **Credits:** 0-1
- COMM 311 - Business and Professional Speaking **Credits:** 3
- COMM 328 - Professional Interviewing **Credits:** 3
- COMM 442 - Theories of Human Communication Networks **Credits:** 3
- COMM 480 - Intercultural Communication **Credits:** 3
- COMM 535 - Communication and Leadership **Credits:** 3
- COMM 537 - Negotiation and Communication **Credits:** 3
- COMM 552 - Coaching and Mentoring **Credits:** 3
- COMM 632 - Innovation Cultures **Credits:** 3

Political and Civic Advocacy and Communication: 12 Credit Hours

Take the following two courses:

- COMM 435 - Political Communication **Credits:** 3
- COMM 545 - Communication in Democracy **Credits:** 3

AND choose two courses of the following:

- COMM 210 - Forensics, Debate, or Mock Trial Participation **Credits:** 0-1
- COMM 325 - Argumentation and Debate **Credits:** 3
- COMM 434 - Rhetoric and Social Movements **Credits:** 3
- COMM 465 - Communication and Conflict **Credits:** 3
- COMM 480 - Intercultural Communication **Credits:** 3
- COMM 526 - Persuasion **Credits:** 3
- COMM 535 - Communication and Leadership **Credits:** 3
- MC 576 - Mass Communications and Political Campaigns **Credits:** 3

Legal Advocacy and Communication: 12 Credit Hours

Take the following two courses:

- COMM 260 - Introduction to Trial Advocacy **Credits:** 3
- COMM 475 - Legal Communication **Credits:** 3

AND choose two courses of the following:

- COMM 210 - Forensics, Debate, or Mock Trial Participation **Credits:** 0-1
- COMM 325 - Argumentation and Debate **Credits:** 3
- COMM 430 - Freedom of Speech **Credits:** 3
- COMM 480 - Intercultural Communication **Credits:** 3
- COMM 526 - Persuasion **Credits:** 3
- COMM 537 - Negotiation and Communication **Credits:** 3
- MC 466 - Media Law and Ethics **Credits:** 3

Coaching and Consulting: 12 Credit Hours

Take the following two courses:

- COMM 480 - Intercultural Communication **Credits:** 3
- COMM 552 - Coaching and Mentoring **Credits:** 3

AND choose two courses from the following:

- COMM 210 - Forensics, Debate, or Mock Trial Participation **Credits:** 0-1
- COMM 311 - Business and Professional Speaking **Credits:** 3
- COMM 323 - Nonverbal Communication **Credits:** 3
- COMM 326 - Group Communication **Credits:** 3
- COMM 328 - Professional Interviewing **Credits:** 3
- COMM 465 - Communication and Conflict **Credits:** 3
- COMM 526 - Persuasion **Credits:** 3
- MC 445 - Digital Brand Strategy **Credits:** 3

Emerging Technology and Networked Communication: 12 Credit Hours

Take the following two courses:

- COMM 332 - Communication and Technology **Credits:** 3
- COMM 632 - Innovation Cultures **Credits:** 3

AND choose two courses of the following:

- COMM 210 - Forensics, Debate, or Mock Trial Participation **Credits:** 0-1
- COMM 130 - Interpersonal Communication **Credits:** 3
- COMM 420 - Gender Communication **Credits:** 3
- COMM 425 - Organizational Communication **Credits:** 3
- COMM 442 - Theories of Human Communication Networks **Credits:** 3
- COMM 480 - Intercultural Communication **Credits:** 3
- MC 370 - Social Media Strategy & Management **Credits:** 3
- MC 506 - Social media News Strategies **Credits:** 3

Truth, Information, and Freedom of Speech: 12 Credit Hours

Take the following two courses:

- COMM 430 - Freedom of Speech **Credits:** 3
- MC 466 - Media Law and Ethics **Credits:** 3

AND choose two courses of the following:

- COMM 210 - Forensics, Debate, or Mock Trial Participation **Credits:** 0-1
- COMM 332 - Communication and Technology **Credits:** 3
- COMM 434 - Rhetoric and Social Movements **Credits:** 3
- COMM 442 - Theories of Human Communication Networks **Credits:** 3
- COMM 526 - Persuasion **Credits:** 3
- COMM 545 - Communication in Democracy **Credits:** 3
- MC 160 - Principles of Journalism **Credits:** 3
- MC 612 - Diversity in Media **Credits:** 3

BS Natural and Quantitative Requirements: 12-15 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course Credits: 3-5

Quantitative course Credits: 3-4

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

BS Arts, Humanities, and Social Sciences Requirements: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: 0-44

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Digital Innovation in Media (BS)

The interdisciplinary undergraduate degree in digital innovation in media blends training in digital media, computer science and entrepreneurship to prepare students for careers in the digital economy. Through a rigorous combination of theory, research and application, students will develop a portfolio of in-demand skills to create content, deploy digital advertising and mobile media strategies, analyze data, manage digital projects, design web sites, launch digital businesses, optimize analytics, code and program, convert online customers into buyers, secure networks and think creatively while building social and cultural

connections. At the completion of the program, students will have fulfilled the requirements of four credentials without additional courses or semesters: a bachelor's degree, a minor and two certificates.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- MC 100 - SMC Orientation **Credits:** 1

Outside Concentration

Students in the Digital Innovation in Media program fulfill the outside concentration requirement with the Computer Science Certificate, included below.

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Program

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC 030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Foundation: 9 Credit Hours

- MC 130 - Writing Conventions and Mechanics **Credits:** 1

- MC 131 - Elements of Media Writing **Credits:** 1
- MC 132 - Writing Styles and Audiences **Credits:** 1
- MC 396 - Research for Advertising and Public Relations **Credits:** 3
- COMM 470 - Building Social and Cultural Connections **Credits:** 3 COMM 470 fulfills the US Multicultural Overlay.

Foundation Electives: 3 Credit Hours

Choose 3 credit hours from the following courses:

- MC 191 - Audio Essentials **Credits:** 1
- MC 192 - Photography Essentials **Credits:** 1
- MC 193 - Video Production Essentials **Credits:** 1
- MC 194 - Social Media Essentials **Credits:** 1
- MC 195 - Creative Design **Credits:** 1
- MC 196 - Content Management for Distribution **Credits:** 1
- MC 197 - Podcasting Essentials **Credits:** 1
- CMST 135 - Web Fundamentals **Credits:** 3
- DIGME 137 - Fundamentals of Visual Communication **Credits:** 3

Computer Science Certificate: 17 Credit Hours

- CC 110 - Introduction to Computing **Credits:** 2
- CC 111 - Elements of Computer Programming **Credits:** 1
- CC 120 - Web Page Development **Credits:** 3
- CC 210 - Fundamental Computer Programming Concepts **Credits:** 4
- CC 310 - Data Structures and Algorithms I **Credits:** 3
- CC 410 - Advanced Programming **Credits:** 4

Digital Engagement Certificate: 16 Credit Hours

- MC 265 - Innovations in Media and Communication **Credits:** 3
- MC 365 - Writing in the Digital Economy **Credits:** 3
- MC 370 - Social Media Strategy & Management **Credits:** 3
- MC 445 - Digital Brand Strategy **Credits:** 3
- MC 565 - Going Mobile! **Credits:** 3

Entrepreneurship and Innovation Minor: 15 Credit Hours

- ENTRP 340 - Business Innovation and the Entrepreneurial Mindset **Credits:** 3
- ENTRP 411 - Intrapreneurship **Credits:** 3
- ENTRP 466 - Digital Business **Credits:** 3
- ENTRP 540 - Entrepreneurial Consulting **Credits:** 3
- ENTRP 575 - Entrepreneurship and Innovation Capstone **Credits:** 3

BS Natural and Quantitative Requirements: 3-5 Credit Hours

One course in each of the following, at any level:

Natural Science course Credits: 3-5

BS Arts, Humanities, and Social Sciences Requirements: 3 Credit Hours

3 credit hours in the following at any level.

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: 17-19

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

A&S common BS degree requirements met by the following: Natural Science Restricted Electives

Arts, Humanities, and Social Sciences Restricted Electives

CC courses (meet A&S quantitative requirements of 3 courses, at least 6 advanced credits)

News & Sports Media (BS)

The News & Sports Media degree prepares future journalists and media professionals to share nonfiction stories ethically, professionally, and creatively on any media platform. Students develop essential skills in storytelling content creation and distribution such as writing and reporting, broadcasting, social media news strategies, podcasting, sports journalism, and digital photo and video. Students are exposed to journalistic storytelling tools such as social media platforms, drones, streaming video and other developing technologies. Students further specialize their degree by pursuing a concentration in a specific content area such as news, sports, photography, or innovative design in which they develop advanced skills. They also personalize their degree with an outside concentration. The hands-on nature of courses prepares students to pursue careers such as photojournalism, media production, sports broadcasting, news reporting, data journalism, and more.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- MC 100 - SMC Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except for School of Media and Communication** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for COMM or MC**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay, 1 course **Credits**: [3]
- Global Perspectives Overlay, 1 course **Credits**: [3]
- US Multicultural Overlay, 1 course **Credits**: [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Foundations - 8 Credit Hours

Writing Foundation I

- MC 130 - Writing Conventions and Mechanics **Credits:** 1

Writing Foundation II

Take 2 credits from the following:

- AGCOM 110 - Introduction to Agricultural Communications **Credits:** 2
- MC 131 - Elements of Media Writing **Credits:** 1
- MC 132 - Writing Styles and Audiences **Credits:** 1

Content Creator Studio I

Take the following 3 courses:

- MC 191 - Audio Essentials **Credits:** 1
- MC 192 - Photography Essentials **Credits:** 1
- MC 193 - Video Production Essentials **Credits:** 1

Content Creator Studio II

Choose 2 credits from the following:

- MC 194 - Social Media Essentials **Credits:** 1
- MC 195 - Creative Design **Credits:** 1
- MC 196 - Content Management for Distribution **Credits:** 1
- MC 197 - Podcasting Essentials **Credits:** 1

NSM Requirements: 21 Credit Hours

- COMM 470 - Building Social and Cultural Connections **Credits:** 3
- MC 160 - Principles of Journalism **Credits:** 3
- MC 200 - News Reporting and Writing Across Platforms **Credits:** 3
- MC 301 - Photo & Video Storytelling **Credits:** 3
- MC 466 - Media Law and Ethics **Credits:** 3
- MC 580 - Storytelling Across Platforms **Credits:** 3
  Take 3 credits in the following two courses
- MC 485 - Media Practicum **Credits:** 1
- MC 491 - Mass Communication Internship **Credits:** 1-3

NSM Electives - 6 Credit Hours

Choose two courses of the following:

- MC 306 - Photographic Storytelling **Credits:** 3
- MC 310 - What's the Score? Sports Media in Society **Credits:** 3
- MC 316 - Interactive Journalism Design **Credits:** 3
- MC 331 - Photography Commercial Imaging **Credits:** 3
- MC 332 - Photography and Digital Storytelling Abroad **Credits:** 3
- MC 340 - Editing for Print and Online Media **Credits:** 3
- MC 341 - Immersive Digital Storytelling **Credits:** 3
- MC 370 - Social Media Strategy & Management **Credits:** 3
- MC 390 - Topics in Journalism and Mass Communications **Credits:** 1-3
- MC 403 - Advanced Reporting and Writing Across Platforms **Credits:** 3
- MC 405 - Perfect Podcasting **Credits:** 3
- MC 406 - Multiplatform News Reporting **Credits:** 3
- MC 410 - Sports Reporting **Credits:** 3
- MC 416 - Photojournalism **Credits:** 3

- MC 426 - Magazine Writing, Editing and Design **Credits:** 3
- MC 469 - Drone Photography and Video **Credits:** 3
- MC 471 - Advanced Production **Credits:** 3
- MC 472 - Multiplatform News Production **Credits:** 3
- MC 479 - Strategic Communications and Sports **Credits:** 3
- MC 490 - Topics in Journalism and Mass Communications **Credits:** 1-3
- MC 498 - Media Portfolio **Credits:** 3
- MC 506 - Social media News Strategies **Credits:** 3
- MC 564 - History of Mass Communication **Credits:** 3
- MC 576 - Mass Communications and Political Campaigns **Credits:** 3
- MC 589 - Issues in Mass Communication **Credits:** 1-3
- MC 612 - Diversity in Media **Credits:** 3
- COMM 435 - Political Communication **Credits:** 3

NSM Specialization - 9 Credit Hours

Choose one specialization from the following (courses used to fulfill NSM Electives may not also be used to fulfill Specialization):

News Specialization

- MC 406 - Multiplatform News Reporting **Credits:** 3
- MC 472 - Multiplatform News Production **Credits:** 3
- MC 506 - Social media News Strategies **Credits:** 3

Sports Specialization

- MC 310 - What's the Score? Sports Media in Society **Credits:** 3
- MC 406 - Multiplatform News Reporting **Credits:** 3
- MC 410 - Sports Reporting **Credits:** 3

Photography Specialization

- MC 331 - Photography Commercial Imaging **Credits:** 3
- MC 416 - Photojournalism **Credits:** 3
- MC 306 - Photographic Storytelling **Credits:** 3
  or
- MC 332 - Photography and Digital Storytelling Abroad **Credits:** 3

Interactive Storytelling

- MC 316 - Interactive Journalism Design **Credits:** 3
- MC 341 - Immersive Digital Storytelling **Credits:** 3
- MC 426 - Magazine Writing, Editing and Design **Credits:** 3

BS Natural and Quantitative Requirements: 12-15 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course Credits: 3-5

Quantitative course Credits: 3-4

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

Free Electives: 19-21

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Minor

Advertising and Public Relations Minor

The 18-hour minor in advertising and public relations is designed to prepare all majors with highly desired workplace skillsets beneficial to a variety of career paths, including brand awareness and reputation management, strategic planning, ethically engaged communication and digital brand management. Students will be introduced to basic advertising and public relations theories and techniques, enabling them to create persuasive messages with a strong emphasis in data-driven and ethical decision-making.

Required Courses: (12 credit hours)

- MC 120 - Principles of Advertising **Credits:** 3
  Or
- MC 180 - Principles of Public Relations **Credits:** 3

- MC 370 - Social Media Strategy & Management **Credits:** 3
  Or
- MC 445 - Digital Brand Strategy **Credits:** 3

- MC 375 - Social Media Influencing & Personal Branding **Credits:** 3
- MC 612 - Diversity in Media **Credits:** 3

Electives: (6 credit hours)

- AGCOM 610 - Crisis Communication **Credits:** 3
- COMM 311 - Business and Professional Speaking **Credits:** 3
- MC 191 - Audio Essentials **Credits:** 1
- MC 192 - Photography Essentials **Credits:** 1

- MC 193 - Video Production Essentials **Credits:** 1
- MC 194 - Social Media Essentials **Credits:** 1
- MC 195 - Creative Design **Credits:** 1
- MC 196 - Content Management for Distribution **Credits:** 1
- MC 197 - Podcasting Essentials **Credits:** 1
- MC 280 - Writing for Advertising & Public Relations **Credits:** 3
- MC 331 - Photography Commercial Imaging **Credits:** 3
- MC 332 - Photography and Digital Storytelling Abroad **Credits:** 3
- MC 374 - Social Media Content Development **Credits:** 3
- MC 482 - Ideation, Strategy and Planning for Advertising and Public Relations **Credits:** 3
- MC 409 - Advanced Strategic Communications Writing **Credits:** 3
- MC 446 - Media Planning **Credits:** 3
- MC 451 - Health Communication **Credits:** 3
- MC 478 - Entertainment and Strategic Communications **Credits:** 3
- MC 479 - Strategic Communications and Sports **Credits:** 3
- MC 623 - Communicating in Global Markets **Credits:** 3

Total Minimum Hours Required for Graduation: 18

Communication Studies Minor

Program requirements

- COMM 320 - Theories of Human Communication **Credits:** 3
- COMM 330 - Rhetoric in Civic Life **Credits:** 3

Four guided electives chosen from the following list (12 credit hours):

(at least one COMM 400 or above)

- COMM 120 - Introduction to Human Communication **Credits:** 3
- COMM 260 - Introduction to Trial Advocacy **Credits:** 3
- COMM 311 - Business and Professional Speaking **Credits:** 3
- COMM 320 - Theories of Human Communication **Credits:** 3
- COMM 321 - Advanced Public Speaking **Credits:** 3
- COMM 130 - Interpersonal Communication **Credits:** 3
- COMM 323 - Nonverbal Communication **Credits:** 3
- COMM 325 - Argumentation and Debate **Credits:** 3
- COMM 326 - Group Communication **Credits:** 3
- COMM 420 - Gender Communication **Credits:** 3
- COMM 425 - Organizational Communication **Credits:** 3
- COMM 328 - Professional Interviewing **Credits:** 3
- COMM 330 - Rhetoric in Civic Life **Credits:** 3
- COMM 332 - Communication and Technology **Credits:** 3
- COMM 430 - Freedom of Speech **Credits:** 3
- COMM 431 - Criticism of Public Discourse **Credits:** 3

- COMM 432 - The Rhetoric of the American Presidency **Credits:** 3
- COMM 433 - Communication Research Methods **Credits:** 3
- COMM 434 - Rhetoric and Social Movements **Credits:** 3
- COMM 435 - Political Communication **Credits:** 3
- COMM 440 - Collaborative Communication and Event Planning **Credits:** 3
- COMM 450 - Special Studies in Human Discourse **Credits:** 3
- COMM 460 - Advanced Trial Advocacy **Credits:** 3
- COMM 465 - Communication and Conflict **Credits:** 3
- COMM 470 - Building Social and Cultural Connections **Credits:** 3
- COMM 475 - Legal Communication **Credits:** 3
- COMM 480 - Intercultural Communication **Credits:** 3
- COMM 525 - Argumentation Theory **Credits:** 3
- COMM 526 - Persuasion **Credits:** 3
- COMM 535 - Communication and Leadership **Credits:** 3
- COMM 537 - Negotiation and Communication **Credits:** 3
- COMM 542 - Relational Communication **Credits:** 3
- COMM 545 - Communication in Democracy **Credits:** 3
- COMM 575 - Internship in Communication Studies **Credits:** 1-3

Total credit hours: (18)

Mass Communications Minor

Program requirements

Students who choose to major in other departments on campus can still specialize in Mass Communications through the A. Q. Miller School of Journalism and Mass Communications.

This degree program is flexible enough to accommodate many student interests, ranging from writing/production courses to more generalized studies of the media professions and their relationship to society.

Each of the following courses must be passed with a grade of "C" or better:

- MC 110 - Mass Communication in Society **Credits:** 3
- MC 130 - Writing Conventions and Mechanics **Credits:** 1
- MC 131 - Elements of Media Writing **Credits:** 1
- MC 132 - Writing Styles and Audiences **Credits:** 1
- MC 466 - Media Law and Ethics **Credits:** 3

Choose one of the following 100-level electives:

- MC 120 - Principles of Advertising **Credits:** 3
- MC 160 - Principles of Journalism **Credits:** 3
- MC 180 - Principles of Public Relations **Credits:** 3

Electives (9 credit hours)

For specialization in the field, students taking the minor must take **three** classes totaling **nine credit hours**. One class must be at the 200-level or higher and two classes one must be 300-level or higher.

Student must achieve a cumulative 2.50 GPA (K-State and transfer grades) in the seven required courses to complete the minor. Note: A grade of a "D" does not transfer.

Total credit hours: (21)

Undergraduate Certificate

Digital Engagement Undergraduate Certificate

The Certificate in Digital Engagement, open to all majors on campus and online and working professionals, is a program designed to help students build knowledge and the necessary digital skills to use media, persuasive content creation, digital branding and content marketing strategies and artificial intelligence to connect businesses or organizations with their target audiences over the internet. The program can be completed in a hybrid or 100% online format.

Admission Requirements

All applicants are required to meet the general university admission requirements.

Graduation Requirements

Completion of each of the four required courses with at least a grade of C.

Course Requirements

- MC 265 - Innovations in Media and Communication **Credits:** 3
- MC 365 - Writing in the Digital Economy **Credits:** 3
- MC 370 - Social Media Strategy & Management **Credits:** 3
- MC 445 - Digital Brand Strategy **Credits:** 3

Total Hours Required: 12

Government and Political Communications Undergraduate Certificate

Prepares individuals to serve in local, state and federal government, political and civic organizations through communications. Instruction in working with news media, public speaking, strategic planning, reputation and crisis management, political marketing and print and broadcast media.

Certificate Required Courses:

JMC Required Courses

- MC 180 - Principles of Public Relations **Credits:** 3
- MC 280 - Writing for Advertising & Public Relations **Credits:** 3

- MC 370 - Social Media Strategy & Management **Credits:** 3

Political Science Required Courses

Please choose one of the following courses:

- POLSC 343 - American Foreign Policy **Credits:** 3
- POLSC 540 - Global Security Threats **Credits:** 3
- POLSC 549 - International Defense Strategies **Credits:** 3

Communication Studies Required Course

- COMM 106 - Public Speaking I **Credits:** 3

Total Hours Required: 18

Social Media Management Undergraduate Certificate

Prepares individuals to understand how organizations utilize social media to communicate with stakeholders. Identify and analyze key debates, trends, and ethical issues related to communication through emerging technology from multiple points of view. Recognize and apply best practices for conducting effective social media program management, measurement, and evaluation.

Required Courses: 12

- COMM 332 - Communication and Technology **Credits:** 3
- MC 194 - Social Media Essentials **Credits:** 1
- MC 370 - Social Media Strategy & Management **Credits:** 3
- MC 374 - Social Media Content Development **Credits:** 3
- MC 474 - Social Media Management Simulation Lab **Credits:** 2

Elective: 3

Select one of the following:

- COMM 526 - Persuasion **Credits:** 3
- MC 375 - Social Media Influencing & Personal Branding **Credits:** 3
- MC 506 - Social media News Strategies **Credits:** 3

Total Minimum Hours Required for Graduation: 15

Travel and Tourism Promotion Undergraduate Certificate

The certificate in Travel and Tourism Promotion combines specialized skills from the hospitality management and strategic communications curricula that directly relate to providing media and communications skills for travel and tourism professionals.

The certificate will be awarded to students who achieve a superior level of expertise in the communication relationship-building and management aspects of travel and tourism.

Promotion Certificate Structure and Requirements:

This certificate totals 18 hours, with 12 required credit hours (6 in Advertising and Public Relations and 6 in Hospitality Management) and 6 elective hours (2 classes from either program's elective hours as suggested below).

Required Classes:

Advertising and Public Relations

- MC 180 - Principles of Public Relations **Credits:** 3
- MC 477 - Travel and Tourism Strategic Communications **Credits:** 3

Hospitality Management

- HM 120 - Introduction to the Hospitality Industry **Credits:** 3
- HM 230 - Issues in Tourism **Credits:** 3

Suggested Electives:

Advertising and Public Relations

- MC 280 - Writing for Advertising & Public Relations **Credits:** 3
- MC 370 - Social Media Strategy & Management **Credits:** 3
- MC 482 - Ideation, Strategy and Planning for Advertising and Public Relations **Credits:** 3
- MC 491 - Mass Communication Internship **Credits:** 1-3
- MC 683 - Reputation Management **Credits:** 3

Hospitality Management

- HM 361 - Hotel Operations **Credits:** 3
- HM 363 - Event Management **Credits:** 3
- HM 426 - Fundraising and Nonprofit Events **Credits:** 3
- HM 475 - Internship in Hospitality Management **Credits:** 3
- HM 621 - Hospitality Law **Credits:** 3

Total hours required: 18

Other Program Choices

Advertising and Public Relations (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
MC 100 - SMC Orientation	1	
Orientation course	1	
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Social & Behavior Requirement	3	**KSC 050**
Social & Behavior Requirement	5	
MC 191 - MC 197 Content Creator Studio		
Total Credits: 16		
Semester 2		
MC 180 - Principles of Public Relations	3â€‹	
MC 130 - Writing Conventions and Mechanics	1	
MC 131 - Elements of Media Writing	1	
MC 132 - Writing Styles and Audiences	1	
ENGL 200 - Expository Writing II	3	**KSC 010**
Natural & Physical Science Requirement	3	**KSC 040**
Social & Behavior Requirement	3	**KSC 050**
Total Credits: 16		
Semester 3 Optional		
Second Year		
Semester 1		

MC 280 - Writing for Advertising & Public Relations	3		
BA Outside Concentration			
Communication Requirement	3	**KSC 020**	
Arts & Humanities Requirement	3	**KSC 060**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Semester 2			
MC Specialization course			
BA Arts, Humanities & Social Science Requirement			
BA Second Language Requirement			
Arts & Humanities Requirement	3	**KSC 060**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Semester 3 OPTIONAL			
Third Year			
Semester 1			
MC 396 - Research for Advertising and Public Relations	3		
BA Arts, Humanities, and Social Science Requirement			
BA Natural & Quantitative Requirement			
BA Outside Concentration			
BA Second Language Requirement			

Semester 2			
MC 466 - Media Law and Ethics	3		
Ethical Reasoning Overlay	3		
BA Natural & Quantitative Requirement			
BA Second Language Requirement			
MC Specialization Course			
COMM 470 - Building Social and Cultural Connections	3		
US Multicultural Overlay **OR**			
MC 612 - Diversity in Media	3		
US Multicultural Overlay	3		
Total Credits: 15	3		
Semester 3 OPTIONAL			
Fourth Year			
Semester 1			
MC 482 - Ideation, Strategy and Planning for Advertising and Public Relations	3		
MC 491 - Mass Communication Internship	1-3		
MC Specialization course			
BA Non - Quantitative Social Science			
BA Second Language Requirement			
Total Credits: 15			
Semester 2			
MC 581 - Campaigns in Advertising and Public Relations	3		

MC Elective course			
A&S Global Perspective Overlay			
BA Outside Concentration			
Total Credits: 12			
Semester 3 OPTIONAL			
Total Programs Hours: 120			

Advertising and Public Relations (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
MC 100 - SMC Orientation	1		
MC 19X - Content Creator Studio option 1	1		
MC 19X - Content Creator Studio option 2	1		
MC 120 - Principles of Advertising	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Social and Behavioral Science Requirement	3	**KSC 050**	
Total Credits: 15			
Semester 2			
MC 180 - Principles of Public Relations	3		
MC 130 - Writing Conventions and Mechanics	1		
MC 131 - Elements of Media Writing	1		

MC 132 - Writing Styles and Audiences	1	
ENGL 200 - Expository Writing II	3	**KSC 010**
Natural and Physical Science Requirement	4	**KSC 040**
Social and Behavioral Science Requirement	3	**KSC 050**
Total Credits: 16		
Second Year		
Semester 1		
MC 280 - Writing for Advertising & Public Relations	3	
BS Outside Concentration	3	
Communications Requirement	3	**KSC 020**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Semester 2		
A&S BS Natural Science	3	
MC Specialization Course	3	
BS Outside Concentration		
Arts and Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
BS Quantitative Course	3	
Total Credits: 15		
Third Year		

Semester 1			
MC 396 - Research for Advertising and Public Relations	3		
BS Outside Concentration	3		
BS Non-Quantitative Social Science	3		
A&S BS Natural Science	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
MC 466 - Media Law and Ethics	3		
MC 612 - Diversity in Media **OR**	3		
COMM 470 - Building Social and Cultural Connections	3		
BS Non-Quantitative Social Science			
MC Specialization Course	3		
A&S BS Natural Science	3		
Free Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
MC 482 - Ideation, Strategy and Planning for Advertising and Public Relations	3		
MC 491 - Mass Communication Internship	1-3		
MC Specialization Course	3		
A&S BS Fine Arts Humanities	3		
Free Elective	3		

Total Credits: 15			
Semester 2			
MC 581 - Campaigns in Advertising and Public Relations	3		
MC Elective Course	3		
BS Outside Concentration	3		
MC 623 - Comm in Gliobal Markets	3		
Free Elective	2		
Total Credits: 14			
Total Program Hours: 120			

Communication Studies (BA) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
COMM 320 - Theories of Human Communication	3		
MC 100 - SMC Orientation	1		
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Social and Behaviorial Science Requirement	3	**KSC 050**	
COMM 106 - Public Speaking I	3	**KSC 020**	
Total Credits: 16			
Semester 2			
COMM 330 - Rhetoric in Civic Life	3		

COMM First Specialization Course	3	
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
Natural and Physical Science Requirement	4-5	**KSC 040**
Social and Behavioral Science Requirement	3	**KSC 050**
Total Credits: 16		
Second Year		
Semester 1		
MC 265 - Innovations in Media and Communication	3	
COMM First Specialization Course	3	
MC 130 - Writing Conventions and Mechanics	1	
MC 1** - Content Creator Studio	1	
MC 1** - Content Creator Studio	1	
Arts and Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
COMM 470 - Building Social and Cultural Connections	3	
COMM First Specialization Course	3	
First Foreign Language - Level I	4	
Arts and Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		

Third Year			
Semester 1			
COMM Method Course	3		
COMM First Specialization Course	3		
First Foreign Language (Level II)	4		
Outside Concentration	3		
Fine Arts Restrictive Elective	3		
Total Credits: 16			
Semester 2			
COMM Second Specialization Course	3		
First Foreign Language (Level III) **OR**	3-4		
Second Foreign Language (Level I)	3-4		
Non-Quantitative Social Sciences	3		
Natural/Quantitative Restrictive Elective	3		
Outside Concentration	3		
Total Credits: 15			
Fourth Year			
Semester 1			
COMM Application/Capstone Course	3		
COMM Second Specialization Course	3		
First Foreign Language (Level IV) **OR**	3-4		
Second Foreign Language (Level II)	3-4		

Ethical Reasoning overlay - Free Elective	3		
Free Elective	2		
Total Credits: 14			
Semester 2			
COMM Second Specialization Course	3		
Global Perspectives Overlay - Free Elective	3		
Outside Concentration	3		
Natural/Quantitative Restrictive Elective	3		
Total Credits: 12			
Total Program Hours: 120			

Communication Studies (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
COMM 320 - Theories of Human Communication	3		
MC 100 - SMC Orientation	1		
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Social and Behavioral Science Requirement	3	**KSC 050**	
COMM 106 - Public Speaking I	3	**KSC 020**	
Total Credits: 16			
Semester 2			

COMM 330 - Rhetoric in Civic Life	3		
COMM First Specialization Course	3		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**	
ENGL 210 - Honors English	3	**KSC 010**	
Natural and Physical Science Requirement	4-5	**KSC 040**	
Social and Behavioral Science Requirement	3	**KSC 050**	
Total Credits: 16			
Second Year			
Semester 1			
MC 265 - Innovations in Media and Communication	3		
COMM First Specialization Course	3		
MC 130 - Writing Conventions and Mechanics	1		
MC 1** - Innovation and Creation	1		
MC 1** - Innovation and Creation	1		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Semester 2			
COMM 470 - Building Social and Cultural Connections	3		
COMM First Specialization Course	3		
Natural Science Restrictive Elective	3		
Arts and Humanities Requirement	3	**KSC 060**	
Free Elective	3		

Total Credits: 15			
Third Year			
Semester 1			
COMM/MC Method Course	3		
COMM First Specialization Course	3		
Outside Concentration	3		
Natural/Quantitative Restrictive Elective	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
COMM Second Specialization Course	3		
Outside Concentration	3		
Free Elective	3		
Natural/Quantitative Restrictive Elective	3		
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Fourth Year			
Semester 1			
COMM Application/Capstone Course	3		
COMM Second Specialization Course	3		
Ethical Reasoning Restrictive Elective	3		
Outside Concentration	3		

Natural/Quantitative Restrictive Elective	3		
Total Credits: 15			
Semester 2			
COMM Second Specialization Course	3		
Global Perspectivies Overlay Restrictive Elective	3		
Non-Quantitative Social Sciences Restrictive Elective	3		
Free Elective	3		
Free Elective	1		
Total Credits: 13			
Total Program Hours: 120			

Digital Innovation in Media (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
MC 100 - SMC Orientation	1		
A&S Orientation requirement	1		
COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
MC 130 - Writing Conventions and Mechanics	1		
MC 131 - Elements of Media Writing	1		
MC 132 - Writing Styles and Audiences	1		
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Social & Behavior Science Requirement	3	**KSC 050**	

Total Credits: 16		
Semester 2		
ENGL 200 - Expository Writing II	3	**KSC 010**
Natural & Physical Life Science with Lab Requirement	4	**KSC 040**
Social & Behavior Science Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Take 3 credits from the following courses:	3	
MC 191 - MC 197 or CMST 135 or DIGME 137		
Total Credits: 16		
Second Year		
Semester 1		
CC 110 - Introduction to Computing	2	
CC 111 - Elements of Computer Programming	1	
MC 265 - Innovations in Media and Communication	3	
Arts & Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
ART 390 - Design for Digital Media I	3	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Semester 2		
CC 210 - Fundamental Computer Programming Concepts	4	
MC 365 - Writing in the Digital Economy	3	

ENTRP 340 - Business Innovation and the Entrepreneurial Mindset	3		
Free Elective	3		
BS Natural Science Restricted elective			
Total Credits: 16			
Third Year			
Semester 1			
CC 310 - Data Structures and Algorithms I	3		
MC 370 - Social Media Strategy & Management	3		
MC 396 -Research for Advertising and Public Relations	3		
ENTRP 411 - Intrapreneurship	3		
BS Fine Arts & Humanities Restricted elective			
Total Credits: 15			
Semester 2			
CC 315 - Data Structures and Algorithms II	3		
ENTRP 466 - Digital Business	3		
MC 491 - Mass Communication Internship	1-3		
To be taken for 3 credit hours:			
MC 623 - Communicating in Global Markets	3		
A&S Global Perspectives Overlay			
BS Non-quantitative Social Science			
Total Credits: 15			
Fourth Year			

Semester 1			
CC 410 - Advanced Programming	4		
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset	3		
MC 445 - Digital Brand Strategy	3		
Free Elective - Ethical Reasoning overlay	3		
Free Elective	3		
Total Credits: 16			
Semester 2			
MC 565 - Going Mobile!	3		
COMM 470 - Building Social and Cultural Connections	3		
Fulfills the US Multicultural Overlay			
ENTRP 575 - Entrepreneurship and Innovation Capstone	3		
Free Elective	2		
Total Credits: 11			
Total Program Hours: 120			

News & Sports Media (BA) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Social & Behavior Sciences Requirement	3	**KSC 050**	
MC 100 - SMC Orientation	1		

MC 130 - Writing Conventions and Mechanics	1		
MC 131 - Elements of Media Writing	1		
MC 132 - Writing Styles and Audiences	1		
MC 160 - Principles of Journalism	3		
Total Credits: 16			
Semester 2			
ENGL 200 - Expository Writing II	3	**KSC 010**	
Natural & Physical Sciences Requirement	4	**KSC 040**	
Social & Behavior Sciences Requirement	3	**KSC 050**	
MC 191 - Audio Essentials	1		
MC 192 - Photography Essentials	1		
MC 193 - Video Production Essentials	1		
MC 200 - News Reporting and Writing Across Platforms	3		
Total Credits: 16			
Second Year			
Semester 1			
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Communication Requirement	3	**KSC 020**	
Arts & Humanities Requirement	3	**KSC 060**	
MC 301 - Photo & Video Storytelling	3		
MC 194-197 Content Creator Studio - Select two courses	2		
Total Credits: 14			

Semester 2			
BA Second Language Req	4		
BA Outside Concentration	3		
BA Arts, Humanities & Social Science Req	3		
Arts & Humanities Requirement	3	**KSC 060**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Third Year			
Semester 1			
COMM 470 - Building Social and Cultural Connections	3		
BA Outside Concentration	3		
BA Second Language Req	4		
BA Arts, Humanities & Social Science Req	3		
MC Specialization course	3		
Total Credits: 16			
Semester 2			
MC Specialization course	3		
BA Outside Concentration	3		
BA Second Language Req	3		
BA Natural & Quantitative Req	3		
BA Non-Quantitative Social Science	3		
Total Credits: 15			

Fourth Year			
Semester 1			
MC 466 - Media Law and Ethics	3		
MC 485 - Media Practicum	1		
MC 491 - Mass Communication Internship	1-3		
BA Second Language Req	3		
BA Natural & Quantitative Req	3		
MC Elective course	3		
Total Credits: 15			
Semester 2			
MC Specialization course	3		
MC 580 - Storytelling Across Platforms	3		
A&S BA Global Perspectives Overlay	3		
MC Elective course	3		
Total Credits 12			
Total Program Hours: 120			

News & Sports Media (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
MC 100 -SMC Orientation	1		
ENGL 100 - Expository Writing I	3	**KSC 010**	
Social & Behavior Sciences Requirement	3	**KSC 050**	

Arts & Humanities Requirement	3	**KSC 060**
MC 130 - Writing Conventions and Mechanics	1	
MC 131 - Elements of Media Writing	1	
MC 132 - Writing Styles and Audiences	1	
MC 160 - Principles of Journalism	3	
Total Credits: 16		
Semester 2		
ENGL 200 -Expository Writing II	3	**KSC 010**
Social & Behavior Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
MC 191 - Audio Essentials	1	
MC 192 -Photography Essentials	1	
MC 193 - Video Production Essentials	1	
MC 200 -News Reporting and Writing Across Platforms	3	
Total Credits: 15		
Second Year		
Semester 1		
MC 301 - Photo & Video Storytelling	3	
MC 194-197 Content Creator Studio course - Select two Content Creator Studio courses	2	
Communication Requirement	3	**KSC 020**
Natural & Physical Sciences Requirement	4	**KSC 040**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		

Semester 2		
BS Natural Science course	3	
BS Outside Concentration	3	
BS Quantitative course	3	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Third Year		
Semester 1		
COMM 470 - Building Social and Cultural Connections	3	
MC Specialization Course	3	
BS Additional Natural/Quant course	3	
BS Outside Concentration	3	
Free Elective	3	
Total Credits: 15		
Semester 2		
MC Specialization course	3	
BS Additional Natural/Quant course	3	
BS Non-Quantitative Social Science	3	
BS Outside Concentration	3	
Free Elective	3	
Total Credits: 15		

Fourth Year		
Semester 1		
MC 466 - Media Law and Ethics	3	
MC 485 - Media Practicum	1	
MC 491 - Mass Communication Internship	1-3	
MC Elective course	3	
BS Non-Quantitative Social Science	3	
Free Elective	3	
Total Credits: 15		
Semester 2		
MC 580 - Storytelling Across Platforms	3	
MC Specialization course	3	
MC Elective course	3	
A&S Global Perspectives Overlay	3	
Free Elective	2	
Total Credits: 14		
Total Program Hours: 120		

Military Science (Army ROTC)

Lieutenant Colonel Heather Barton , Department Head

101 Gen. Richard B. Myers Hall
785-532-6754 or 785-532-5173
Fax: 785-532-6778
E-mail: bvogt002@k-state.edu
armyrotc.k-state.edu

The Army Reserve Officers' Training Corps is a nationally acclaimed leader-development program that educates and trains aspiring young professionals to attain critical organizational and interpersonal leadership skills, knowledge, and attributes necessary to lead in military and corporate settings. This program includes a progressive, structured curriculum that provides the theoretical and practical application of military leadership in and out of the classroom.

ROTC students can earn a federal commission as a United States Army officer and be placed in a professional occupational specialty area of their choosing upon graduation. Students can choose to serve full-time or part-time as U.S. Army officers and are fully qualified for continuing education benefits.

Due to the dual requirements of academic degree programs and the military science program, the Department of Military Science provides financial support through monthly stipends to qualified students. Additionally, all students enrolled in this program are managed using a mentor system where a faculty leader takes personal interest and effort toward promoting the students' professional development.

The courses are open to all students. Students, both undergraduate and graduate, with two years remaining at K-State are eligible to pursue an officer commission through Army ROTC. Military science courses are credit-awarding courses and fulfill elective credit requirements in any degree program. Cadets may pursue any curriculum offered by the university.

The military science curriculum consists of the basic course, normally completed during the freshman and sophomore years, and the advanced course, oriented towards the junior and senior years.

Modern Languages

Jeffrey Zamostny, Head
Angélique Courbou, Director of Undergraduate Studies and Lead Advisor

207 Eisenhower Hall
785-532-6760
E-mail: modlang@k-state.edu
https://www.k-state.edu/languages

All regular courses offered by the Department of Modern Languages may be taken by non-majors on an A/Pass/F basis, subject to the provisions of the university policy.

Students majoring in languages should enroll for the bachelor of arts degree.

Programs Offered

Modern Languages offers a major in Modern Languages with concentrations in FRENCH, GERMAN, or SPANISH. Students may combine their Modern Language majors with a major in a different field or college. To accomplish this, students need to complete the requirements for a BA in Modern Languages as well as those for the other major or degree. We also encourage students to consider secondary majors in International Studies, or a minor in Chinese Studies, Classical Studies, French, German, Japanese Studies, Spanish or Spanish Translation to complement their curriculum.

Kirmser Language Center (KLC)

001 Eisenhower Hall

Making learning enjoyable! If you are a faculty member or a student enrolled in a language course, come on in! You are invited to the Kirmser Language Center. We will provide you audio, video, and computer multimedia services for both undergraduate and graduate level courses within the Department of Modern Languages. The KLC currently services between 800-1000 students each semester and offers a variety of resources.

Placement and Retroactive Credit

Entering students who have had previous language experience and who plan to continue language study are strongly encouraged to take a language placement survey before or at the beginning of the first semester of language study. If there is any doubt as to proper placement, check with Modern Languages advisors at mlangadvising@k-state.edu.

Students wishing to acquire retroactive credit for language proficiency gained before coming to K-State should consult with Modern Languages advisors at mlangadvising@k-state.edu.

Financial aid

The department offers scholarships to undergraduate majors and minors for study at K-State or in study abroad programs. For details, contact the head of the Department of Modern Languages.

Programs abroad

The department sponsors annual or biannual faculty-led summer study programs in Germany, Japan, Mexico, and Spain. All inquiries should be addressed to the head of the department.

In addition, students may explore additional faculty-led and non-faculty-led study abroad programs facilitated through the Office of Education Abroad.

Bachelor of Arts

Modern Languages - French (BA)

The French program in the Department of Modern Languages develops the skills and perspectives of culturally and linguistically competent citizens who are poised to live and work in an increasingly global and diverse society, in accordance with Kansas State University's land-grant mission. The program offers an interdisciplinary, holistic, and balanced preparation that balances language study with cultural and literary studies and helps students build advanced level proficiency in the language. Students will build skills in effective communication, interpretation, analysis, evaluation, and research in applied courses that prioritize interaction in the language. Our undergraduate majors typically pursue coursework in the language, building on a solid foundation to pursue advanced opportunities in translation studies, literary and cultural studies, film and media studies, languages for professional purposes (business and health), and applied linguistics (including bilingualism, second language acquisition and pedagogy). The program, while structured to ensure success at each level, is designed to ensure flexibility to help learners personalize and individualize their path. Graduates pursue careers in education, translation and interpretation, law, international business, and healthcare.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Modern Languages** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for any Modern Languages prefix including but not limited to ARAB, CHINE, CLSCS, FREN, GRMN, ITAL, JAPAN, LATIN, MLANG, RUSSN, SPAN**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Modern Languages - French

A Modern Languages major in French consists of thirty-three credit hours of French courses at and above FREN 200, including one required literature and media course (3 credits) from the following list: FREN 520, FREN 521, FREN 530, and at least three 6/700-level courses (9 credits).

Retroactive credit, study abroad credit (approved by the department), and AP/IB credit may apply. With the exception of transfer credit or credit by examination approved by the department, students who major in French must either (a) receive a grade of C or higher in all courses counted toward the major or (b) have a GPA of at least 2.50 in all courses counted toward the major.

Notes:

- Literature courses in translation may not be applied toward the major.
- Two non-transfer courses are required at the 600-level or above.
- Classes for the major cannot be taken Pass/Fail.

In addition to meeting the general requirements for the Bachelor of Arts degree, a Modern Languages in French must complete the following requirements.

I - Basic Language Sequence (6 credits)

- FREN 201 - French III **Credits:** 3
- FREN 301 - French IV **Credits:** 3

II - Introduction to Literature and Media (3 credits)

- FREN 520 - Introduction to French Literature (19th Century to the Present) **Credits:** 3
  OR
- FREN 530 - Topics in French/Francophone Literature and Culture **Credits:** 3

III - Advanced Level Language Content (24 credits)

Five FREN courses 500-799 - 15 credit hours

Three additional FREN courses 600-799 - 9 credit hours

BA Arts, Humanities, and Social Sciences Requirement: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

Free Electives: 31 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Modern Languages - French with Distinction (BA)

The French program with Distinction in the Department of Modern Languages develops the skills and perspectives of culturally and linguistically competent citizens who are poised to live and work in an increasingly global and diverse society, in accordance with Kansas State University's land-grant mission. The program offers an interdisciplinary, holistic, and balanced preparation that balances language study with cultural and literary studies and helps students build advanced level proficiency in the language. Students will build skills in effective communication, interpretation, analysis, evaluation, and research in applied courses that prioritize interaction in the language. Our undergraduate majors typically pursue coursework in the language, building on a solid foundation to pursue advanced opportunities in translation studies, literary and cultural studies, film and media studies, languages for professional purposes (business and health), and applied linguistics (including bilingualism, second language acquisition and pedagogy). The program, while structured to ensure success at each level, is designed to ensure flexibility to help learners personalize and individualize their path. Graduates pursue careers in education, translation and interpretation, law, international business, and healthcare.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Modern Languages** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for any Modern Languages prefix including but not limited to ARAB, CHINE, CLSCS, FREN, GRMN, ITAL, JAPAN, LATIN, MLANG, RUSSN, SPAN**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Modern Languages - French with Distinction

A Modern Languages major in French with Distinction consists of thirty-nine credit hours of French courses at and above FREN 200, including one required literature and media course (3 credits) from the following list: FREN 520, FREN 521, FREN 530, and at least four 6/700-level courses (12 credits).

Retroactive credit, study abroad credit (approved by the department), and AP/IB credit may apply. With the exception of transfer credit or credit by examination approved by the department, students who major in French with Distinction must maintain a 3.5 GPA in all courses taken toward the major.

Notes:

- Literature courses in translation may not be applied toward the major.
- Two non-transfer courses are required at the 600-level or above.
- Classes for the major cannot be taken Pass/Fail.

In addition to meeting the general requirements for the Bachelor of Arts degree, a Modern Languages in French with Distinction must complete the following requirements.

I - Basic Language Sequence (6 credits)

- FREN 201 - French III **Credits:** 3
- FREN 301 - French IV **Credits:** 3

II - Introduction to Literature and Media (3 credits)

- FREN 520 - Introduction to French Literature (19th Century to the Present) **Credits:** 3

OR

- FREN 530 - Topics in French/Francophone Literature and Culture **Credits:** 3

III - Advanced Level Language Content (30 credits)

Six FREN courses 500-799 - 18 credit hours

Four additional FREN courses 600-799 - 12 credit hours

BA Arts, Humanities, and Social Sciences Requirement: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

Free Electives: 25 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Modern Languages - German (BA)

The German program in the Department of Modern Languages develops the skills and perspectives of culturally and linguistically competent citizens who are poised to live and work in an increasingly global and diverse society, in accordance with Kansas State University's land-grant mission. The program offers an interdisciplinary, holistic, and balanced preparation that balances language study with cultural and literary studies and helps students build advanced level proficiency in the language. Students will build skills in effective communication, interpretation, analysis, evaluation, and research in applied courses that prioritize interaction in the language. Our undergraduate majors typically pursue coursework in the language, building on a solid foundation to pursue advanced opportunities in translation studies, literary and cultural studies, film and media studies, languages for professional purposes (business and health), and applied linguistics (including bilingualism, second language acquisition and pedagogy). The program, while structured to ensure success at each level, is designed to ensure flexibility to help learners personalize and individualize their path. Graduates pursue careers in education, translation and interpretation, law, international business, and healthcare.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Modern Languages** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for any Modern Languages prefix including but not limited to ARAB, CHINE, CLSCS, FREN, GRMN, ITAL, JAPAN, LATIN, MLANG, RUSSN, SPAN**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Modern Languages - German

A Modern Languages major in German consists of thirty-three credit hours of German courses at and above GRMN 200, including one required literature and media course (3 credits) from the following list: GRMN 521, GRMN 522, GRMN 530, and at least three 6/700-level courses (9 credits).

Retroactive credit, study abroad credit (approved by the department), and AP/IB credit may apply. With the exception of transfer credit or credit by examination approved by the department, students who major in German must either (a) receive a grade of C or higher in all courses counted toward the major or (b) have a GPA of at least 2.50 in all courses counted toward the major.

Notes:

- Literature courses in translation may not be applied toward the major.
- Two non-transfer courses are required at the 600-level or above.
- Classes for the major cannot be taken Pass/Fail.

In addition to meeting the general requirements for the Bachelor of Arts degree, a Modern Languages in German must complete the following requirements:

Bachelor's degree requirements

I - Basic Language Sequence (6 credits)

- GRMN 201 - German III **Credits:** 3
- GRMN 301 - German IV **Credits:** 3

II - Introduction to Literature and Media (3 credits)

- GRMN 521 - Introductory Topics in German Literature and Culture of the 18th and 19th century **Credits:** 3
  OR
- GRMN 522 - Introductory Topics in German Literature and Culture of the 20th and 21st century **Credits:** 3
  OR
- GRMN 530 - German Cultural Studies and History **Credits:** 3

III - Advanced Level Language Content (24 credits)

Five GRMN courses 500-799 - 15 credits

Three additional GRMN courses 600-799 - 9 credits

BA Arts, Humanities, and Social Sciences Requirement: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

Free Electives: 31 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Modern Languages - German with Distinction (BA)

The German program with Distinction in the Department of Modern Languages develops the skills and perspectives of culturally and linguistically competent citizens who are poised to live and work in an increasingly global and diverse society, in accordance with Kansas State University's land-grant mission. The program offers an interdisciplinary, holistic, and balanced preparation that balances language study with cultural and literary studies and helps students build advanced level proficiency in the language. Students will build skills in effective communication, interpretation, analysis, evaluation, and research in applied courses that prioritize interaction in the language. Our undergraduate majors typically pursue coursework in the language, building on a solid foundation to pursue advanced opportunities in translation studies, literary and cultural studies, film and media studies, languages for professional purposes (business and health), and applied linguistics (including bilingualism, second language acquisition and pedagogy). The program, while structured to ensure success at each level, is designed to ensure flexibility to help learners personalize and individualize their path. Graduates pursue careers in education, translation and interpretation, law, international business, and healthcare.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Modern Languages** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for any Modern Languages prefix including but not limited to ARAB, CHINE, CLSCS, FREN, GRMN, ITAL, JAPAN, LATIN, MLANG, RUSSN, SPAN**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Modern Languages - German with Distinction

A Modern Languages major in German with Distinction consists of thirty-nine credit hours of German courses at and above GRMN 200, including one required literature and media course (3 credits) from the following list: GRMN 521, GRMN 522, GRMN 530, and at least four 6/700-level courses (9 credits).

Retroactive credit, study abroad credit (approved by the department), and AP/IB credit may apply. With the exception of transfer credit or credit by examination approved by the department, students who major in German must maintain a 3.5GPA in all courses counted toward the major.

Notes:

- Literature courses in translation may not be applied toward the major.
- Two non-transfer courses are required at the 600-level or above.
- Classes for the major cannot be taken Pass/Fail.

In addition to meeting the general requirements for the Bachelor of Arts degree, a Modern Languages in German with Distinction must complete the following requirements

I - Basic Language Sequence (6 credits)

- GRMN 201 - German III **Credits:** 3
- GRMN 301 - German IV **Credits:** 3

II - Introduction to Literature and Media (3 credits)

- GRMN 521 - Introductory Topics in German Literature and Culture of the 18th and 19th century **Credits:** 3
- GRMN 522 - Introductory Topics in German Literature and Culture of the 20th and 21st century **Credits:** 3
- GRMN 530 - German Cultural Studies and History **Credits:** 3

III - Advanced Level Language Content (30 credits)

Six GRMN courses 500-799 - 18 credits

Four additional GRMN courses 600-799 - 12 credits

BA Arts, Humanities, and Social Sciences Requirement: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

Free Electives: 25 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Modern Languages - Spanish (BA)

The Spanish program in the Department of Modern Languages develops the skills and perspectives of culturally and linguistically competent citizens who are poised to live and work in an increasingly global and diverse society, in accordance with Kansas State University's land-grant mission. The program offers an interdisciplinary, holistic, and balanced preparation that balances language study with cultural and literary studies and helps students build advanced level proficiency in the language. Students will build skills in effective communication, interpretation, analysis, evaluation, and research in applied courses that prioritize interaction in the language. Our undergraduate majors typically pursue coursework in the language, building on a solid foundation to pursue advanced opportunities in translation studies, literary and cultural studies, film and media studies, languages for professional purposes (business and health), and applied linguistics (including bilingualism, second language acquisition and pedagogy). The program, while structured to ensure success at each level, is designed to ensure flexibility to help learners personalize and individualize their path. Graduates pursue careers in education, translation and interpretation, law, international business, and healthcare.

Kansas State University Core: 34-36 Credit Hours

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The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

A&S Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **Modern Languages** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for any Modern Languages prefix including but not limited to ARAB, CHINE, CLSCS, FREN, GRMN, ITAL, JAPAN, LATIN, MLANG, RUSSN, SPAN**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Modern Languages - Spanish

A Modern Languages major in Spanish consists of thirty-three credit hours of Spanish courses at and above SPAN 200, including one required literature and media course (3 credits) from the following list: SPAN 550 or SPAN 551, and at least three 6/700-level courses (9 credits).

Retroactive credit, study abroad credit (approved by the department), and AP/IB credit may apply. With the exception of transfer credit or credit by examination approved by the department, students who major in Spanish must either (a) receive a grade of C or higher in all courses counted toward the major or (b) have a GPA of at least 2.50 in all courses counted toward the major.

Notes:

- Literature courses in translation may not be applied toward the major.
- Two non-transfer courses are required at the 600-level or above.
- Classes for the major cannot be taken Pass/Fail.

In addition to meeting the general requirements for the Bachelor of Arts degree, a Modern Languages in French must complete the following requirements.

I - Basic Language Sequence (6 credits)

- SPAN 201 - Spanish III **Credits:** 3
- SPAN 301 - Spanish IV **Credits:** 3

  OR
- SPAN 302 - Spanish IV for Heritage Speakers **Credits:** 3

II - Introduction to Literature and Media (3 credits)

- SPAN 550 - Introduction to Hispanic Readings and Media **Credits:** 3

III - Advanced Level Language Content (24 credits)

Five SPAN courses 400-799 15 Credit Hours

Three additional SPAN courses 600-799 9 Credit Hours

BA Arts, Humanities, and Social Sciences Requirement: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course 3 credit hours

Natural Science, or Quantitative, or Social Social Science w/MATH OR STAT prereq 3 credit hours

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

Free Electives: 31 Credit Hours

Free Electives (in addition to K-State Core #7) 31 credit hours

Total Hours Required for Graduation: 120

Modern Languages - Spanish with Distinction (BA)

The Spanish program with Distinction in the Department of Modern Languages develops the skills and perspectives of culturally and linguistically competent citizens who are poised to live and work in an increasingly global and diverse society, in accordance with Kansas State University's land-grant mission. The program offers an interdisciplinary, holistic, and balanced preparation that balances language study with cultural and literary studies and helps students build advanced level proficiency in the language. Students will build skills in effective communication, interpretation, analysis, evaluation, and research in applied courses that prioritize interaction in the language. Our undergraduate majors typically pursue coursework in the language, building on a solid foundation to pursue advanced opportunities in translation studies, literary and cultural studies, film and media studies, languages for professional purposes (business and health), and applied linguistics (including bilingualism, second language acquisition and pedagogy). The program, while structured to ensure success at each level, is designed to ensure flexibility to help learners personalize and individualize their path. Graduates pursue careers in education, translation and interpretation, law, international business, and healthcare.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

- DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Modern Languages** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for any Modern Languages prefix including but not limited to ARAB, CHINE, CLSCS, FREN, GRMN, ITAL, JAPAN, LATIN, MLANG, RUSSN, SPAN**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

- Ethical Reasoning Overlay **Credits:** [3]
- Global Perspectives Overlay **Credits:** [3]
- US Multicultural Overlay **Credits:** [3]

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Modern Languages - Spanish with Distinction

A Modern Languages major in Spanish with Distinction consists of thirty-nine credit hours of Spanish courses at and above SPAN 200, including one required literature and media course (3 credits) from the following list: SPAN 550 or SPAN 551, and at least four 6/700-level courses (12 credits).

Retroactive credit, study abroad credit (approved by the department), and AP/IB credit may apply. With the exception of transfer credit or credit by examination approved by the department, students who major in Spanish with Distinction must maintain a 3.5 GPA in all courses taken toward the major.

Notes:

- Literature courses in translation may not be applied toward the major.
- Two non-transfer courses are required at the 600-level or above.
- Classes for the major cannot be taken Pass/Fail.

In addition to meeting the general requirements for the Bachelor of Arts degree, a Modern Languages in Spanish with Distinction must complete the following requirements.

I - Basic Language Sequence (6 credits)

- SPAN 201 - Spanish III **Credits:** 3
- SPAN 301 - Spanish IV **Credits:** 3
  OR
- SPAN 302 - Spanish IV for Heritage Speakers **Credits:** 3

II - Introduction to Literature and Media (3 credits)

- SPAN 550 - Introduction to Hispanic Readings and Media **Credits:** 3

III - Advanced Level Language Content (30 credits)

Six SPAN courses 400-799 18 credit hours

Four additional SPAN courses 600-799 12 credit hours

BA Arts, Humanities, and Social Sciences Requirement: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

Free Electives: 25 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Minor

Chinese Studies Minor

Develop intermediate level language skills in Chinese as well as an interdisciplinary foundation in the culture of the Chinese-speaking world.

Program requirements

Program requirements

The following are the Chinese Studies minor requirements:

- Requires 18 credit hours including a minimum of 15 credits of Chinese courses at the 200-level or above ("Chinese Language & Culture Courses") and 3 credits from the approved elective list ("Ancillary Courses").
- You must receive a "C" or better, or a minimum GPA of 2.5, in all courses counted toward a minor. Classes for the minor cannot be taken Pass/Fail. Retroactive Credit from KSU does apply toward the minor.
- We strongly encourage students to Study Abroad. While we will accept appropriate coursework taken toward the minor, no more than 6 credit hours of transfer courses may be applied to the minor.

Chinese Language & Culture Courses (15 credit hours)

15 credits of Chinese courses at the 200-level and above.

- CHINE 200 - Chinese II **Credits:** 4
- CHINE 201 - Chinese III **Credits:** 4
- CHINE 301 - Chinese IV **Credits:** 4
- CHINE 501 - Chinese V **Credits:** 3
- CHINE 599 - Special Studies in Chinese **Credits:** 0-18

Ancillary Courses (3 credit hours)

3 credits from the pre-approved courses listed below.

- CHINE 502 - Chinese VI **Credits:** 3
- CHINE 599 - Special Studies in Chinese **Credits:** 0-18
- ENGL 388 - Asian American Literatures **Credits:** 3
- ENGL 580 - Selected World Literature **Credits:** 3
- GEOG 660 - Geography of East Asia/China **Credits:** 3
- HIST 330 - History of East Asian Civilizations **Credits:** 3
- HIST 332 - Introduction to China **Credits:** 3
- HIST 504 - Intellectual History of Early China **Credits:** 3
- HIST 507 - China Since 1644 **Credits:** 3
- HIST 508 - Introduction to Modern East Asia **Credits:** 3
- POLSC 625 - East Asian Politics **Credits:** 3

  MLANG courses at the 300-level or above **Credits / Units:** 3

  Other courses may be substituted via written petition from the student to department and subsequent approval by (1) faculty in Chinese and (2) department head. **Credits / Units:** 3

Total credit hours: 18

Classical Studies Minor

Program requirements

The minor requires 18 credit hours at or above the 200-level that are passed with a C or better or a 2.5 GPA; they cannot be taken pass/fail. As part of the 18 credit hours students must complete to attain the minor, they must fulfill the requirements within the Humanities Core of the minor and the Language Requirements of the minor

The courses listed below are the courses offered by the Department of Modern Languages as part of the curriculum of the minor that will count toward the 18 credit hour requirement for attaining the minor.

Student may, but are not required to take a number of courses offered by other programs at K-State that include discussion of classical topics. The list of accepted ancillary courses is included below, under Ancillary Courses with Classical Content.

Language Courses (6 credit hours)

- GREEK 301 - Intermediate Greek-Prose **Credits:** 3
- GREEK 302 - Intermediate Greek-Poetry **Credits:** 3

  or
- LATIN 301 - Intermediate Latin - Prose **Credits:** 3
- LATIN 302 - Intermediate Latin - Poetry **Credits:** 3

Core Humanities Courses (6 credit hours)

- CLSCS 309 - Introduction to Classical Literature in Translation **Credits:** 3
- CLSCS 310 - Introduction to Classical Mythology in Translation **Credits:** 3
- CLSCS 501 - Topics in Classical Literature in Translation **Credits:** 3
- CLSCS 502 - Topics in Classical Studies **Credits:** 3
- CLSCS 549 - Special Studies in Classics **Credits:** 1-5

Ancillary Courses with Classical Content (6 credit hours)

- ENGL 230 - Classical Cultures **Credits:** 3
- ENVD 250 - History of the Designed Environment I **Credits:** 3
- HIST 567 - Europe in the Middle Ages **Credits:** 3
- HIST 585 - Medieval Christianity **Credits:** 3
- MUSIC 466 - Music History I: Ancient Greece to Beethoven **Credits:** 3
- POLSC 661 - Ancient and Medieval Political Thought **Credits:** 3
- THTRE 572 - History of Theatre I **Credits:** 3

Study Abroad:

Students will be encouraged, but not required, to study abroad in Greece, Turkey, or Italy or elsewhere at programs that offer courses in classical languages and cultures. Students currently have the opportunity, through the Office of International Programs, to study at universities that offer courses on classical topics including Bogaziçi University in Istanbul. In the future, a faculty-led summer study abroad trip to Italy, Greece, or Turkey will be organized. Transfer credit may fulfill requirements in the Humanities Core, the Language Requirements, and/or the Ancillary Requirements if approved by the Director of the minor in Classical Studies. At least two courses for the minor at or above the 300-level must be taken at K-State's Manhattan campus.

Total credit hours: (18)

French Minor

Develop intermediate level language skills in French as well as an interdisciplinary foundation in the culture of the French-speaking world.

Program requirements

The following are the French minor requirements:

- 18 credit hours of French courses at the 200-level or above, must include a literature course (FREN 520 or FREN 521 or FREN 530).
- You must receive a "C" or better, or a minimum GPA of 2.5, in all courses counted toward a minor.
- Classes for the minor cannot be taken Pass/Fail. Retroactive Credit from KSU does apply toward the minor.
- We strongly encourage students to Study Abroad. While we will accept appropriate coursework taken toward the minor, no more than 6 credit hours of transfer courses may be used for the minor.

French Language & Culture Courses (18 credit hours)

18 credit hours of French courses at and above the 200-level, including one literature course from the following list: FREN 520, FREN 521, or FREN 530.

- FREN 201 - French III **Credits:** 3
- FREN 301 - French IV **Credits:** 3
- FREN 501 - Readings in French **Credits:** 3
- FREN 503 - French Composition and Grammar **Credits:** 3
- FREN 512 - French/Francophone Cinema **Credits:** 3

- FREN 514 - Contemporary France **Credits:** 3
- FREN 515 - History of French Culture **Credits:** 3
- FREN 517 - French for the Professions **Credits:** 3
- FREN 518 - French Conversation **Credits:** 3
- FREN 519 - Special Studies in French **Credits:** 1-18

One of the following is required:

- FREN 520 - Introduction to French Literature (19th Century to the Present) **Credits:** 3
- FREN 530 - Topics in French/Francophone Literature and Culture **Credits:** 3

Any French course at the 700-level

Total credit hours: 18

German Minor

Develop intermediate level language skills in German as well as an interdisciplinary foundation in the culture of the German-speaking world.

Program requirements

The following are the German minor requirements:

- 18 credit hours of German courses at the 200-level or above, including one literature course from the following list: GRMN 521 or GRMN 522.
- You must receive a "C" or better, or a minimum GPA of 2.5, in all courses counted toward a minor.
- Classes for the minor cannot be taken Pass/Fail. Retroactive Credit from KSU does apply toward the minor.
- We strongly encourage students to Study Abroad. While we will accept appropriate coursework taken toward the minor, no more than 6 credit hours of transfer courses may be used for the minor.

Minor requirements

18 credit hours in German at the 200-level and above, including one literature course from the following list: GRMN 521 or GRMN 522.

- GRMN 201 - German III **Credits:** 3
- GRMN 222 - Elementary German Conversation IIIA **Credits:** 2
- GRMN 301 - German IV **Credits:** 3
- GRMN 398 - Intermediate Studies in German **Credits:** 1-18
- GRMN 510 - German Film **Credits:** 3
- GRMN 515 - Topics in German Cultural Studies **Credits:** 3
- GRMN 520 - Readings in German **Credits:** 3

One of the following courses are required:

- GRMN 521 - Introductory Topics in German Literature and Culture of the 18th and 19th century **Credits:** 3
- GRMN 522 - Introductory Topics in German Literature and Culture of the 20th and 21st century **Credits:** 3

- GRMN 526 - Business German **Credits:** 3
- GRMN 527 - Advanced German Conversation **Credits:** 3
- GRMN 529 - Special Studies in German **Credits:** 1-18
- GRMN 530 - German Cultural Studies and History **Credits:** 3
- GRMN 701 - Topics in Eighteenth Century German Literature and Culture **Credits:** 3
- GRMN 702 - Topics in Nineteenth Century German Literature and Culture **Credits:** 3
- GRMN 703 - Topics in Early Twentieth Century German Literature and Culture **Credits:** 3
- GRMN 704 - Topics in German Literature and Culture since 1945 **Credits:** 3
- GRMN 705 - Topics in Twentieth and Twenty-First Century German Literature and Culture **Credits:** 3
- GRMN 728 - History of the German Language **Credits:** 3
- GRMN 729 - Open Topics Seminar in German Literature and Culture **Credits:** 3
- GRMN 731 - Advanced German: Speaking and Writing **Credits:** 3
- GRMN 740 - German Culture and Literature in Second-Language Learning **Credits:** 3
- GRMN 799 - Problems in Modern Languages **Credits:** 1-18

Total credit hours: (18)

Japanese Studies Minor

Develop intermediate level language skills in Japanese as well as an interdisciplinary foundation in the culture of the Japanese-speaking world.

Program requirements

- To declare your minor, you need to fill out a "Add Minor" form in the Department of Modern Languages, 207 Eisenhower Hall.
- 18 credit hours of Japanese courses at the 200-level or above, and/or courses approved by the department of modern languages, listed below as "ancillary courses".
- You must receive a "C" or better, or a minimum GPA of 2.5, in all courses counted toward a minor. Classes for the minor cannot be taken Pass/Fail. Retroactive Credit from KSU does apply toward the minor.
- We strongly encourage students to Study Abroad. While we will accept appropriate coursework taken toward the minor, no more than six hours of transfer courses may be used for the minor.

Japanese Language & Culture Courses (15 credit hours)

Japanese courses in the 200 level and above.

- JAPAN 200 - Japanese II **Credits:** 4
- JAPAN 201 - Japanese III **Credits:** 4
- JAPAN 301 - Japanese IV **Credits:** 4
- JAPAN 391 - Culture of Japanese Communication **Credits:** 3
- JAPAN 501 - Japanese V **Credits:** 3
- JAPAN 599 - Special Studies in Japanese **Credits:** 0-18

Ancillary Courses (3 credit hours)

3 credit hours from the following list:

- ENGL 388 - Asian American Literatures **Credits:** 3
- HIST 330 - History of East Asian Civilizations **Credits:** 3
- HIST 331 - Introduction to Japan **Credits:** 3
- HIST 501 - Japan's Samurai Age **Credits:** 3
- HIST 508 - Introduction to Modern East Asia **Credits:** 3
- HIST 509 - Japan Since 1550 **Credits:** 3
- HIST 850 - History and Security: East Asia **Credits:** 3
- JAPAN 502 - Japanese VI **Credits:** 3
- JAPAN 599 - Special Studies in Japanese **Credits:** 0-18
  MLANG courses at the 300-level or above **Credits / Units:** 3
- POLSC 625 - East Asian Politics **Credits:** 3
  Other courses may be substituted in via written petition from student to department and subsequent approval by (1) Japanese faculty and (2) department head **Credits / Units:** 3

Total credit hours: 18

Russian Minor

The Department of Modern Languages strives to provide the best possible learning environment for its students, and for this reason we take very seriously the placement of students in courses that match their abilities. Each class in the sequence of our courses is designed so that students advance in reading, listening, writing, speaking, and cultural proficiency. In order to best serve each individual, **the Department reserves the right to remove students from the rosters of classes that do not correspond to their proficiency levels**. Students who have acquired advanced language skills abroad or at home must consult with Modern Languages staff in order to determine their appropriate entry point in our language sequence. Students who begin their coursework at advanced levels may qualify for retroactive credit in as many as four courses. Click here for more information.

Program requirements

In order to minor in a language, you need to comply with the following rules:

- First, declare your minor. You can do so when you start taking classes toward the minor, or later on.
- To declare your minor, you need to fill out a "Add Minor" form in the Department of Modern Languages, 207 Eisenhower Hall.
- You do not need to have an advisor to do your minor, simply follow the requirements relative the language you've chosen.
- You must receive a "C" or better, or a minimum GPA of 2.5, in all courses counted toward a minor.
- We strongly encourage students to Study Abroad. While university policy requires courses applied towards the minor to be taken in residence, we will accept appropriate coursework taken toward the minor; provided that at least two 400/500 level courses for the minor be taken on campus.
- Retroactive Credit from KSU does apply toward the minor.
- Classes for the minor cannot be taken Pass/Fail.

Minor requirements

18 credit hours of Russian courses in the 200 level and above.

Note: Up to 6 credit hours of RUSSN 398 (Intermediate Studies in Russian) may also be counted toward the minor. Make sure to read the general procedures to obtain a minor carefully.

- RUSSN 250 - Russian Culture and Civilization **Credits:** 3
- RUSSN 300 - Russian III **Credits:** 4
- RUSSN 301 - Russian IV **Credits:** 3
- RUSSN 398 - Intermediate Studies in Russian **Credits:** 1-18
- RUSSN 504 - Russian Literature in Translation: The Nineteenth Century **Credits:** 3
- RUSSN 508 - Russian Literature in Translation: The Soviet Period **Credits:** 3
- RUSSN 551 - Russian V **Credits:** 3
- RUSSN 553 - Russian Conversation and Composition **Credits:** 3
- RUSSN 559 - Special Studies in Russian **Credits:** 1-18

Total credit hours: (18)

South Asian Studies Minor

The minor is interdisciplinary, integrating traditional area studies in the social sciences and humanities with courses in the professional disciplines. The minor consists of four semesters of language (or its equivalent); two core courses in the traditional areas of social science and humanities; two elective courses in South Asian content from an approved list of courses across eight colleges.

Students must have a GPA of 2.0 or better to qualify for the South Asian Studies minor. To complete the minor, they need 27 credit hours of designated course work (or its equivalent for the 15 credit hours of language) of which at least 12 credit hours must be in core and elective courses.

Minor Program Requirements:

South Asian Language Requirement (15 credit hours)

The minor requires that each student acquire mastery of a South Asian language at the intermediate level which is defined as a Level IV of Hindi or its equivalent in another South Asian language.

- HINDI 101 - Hindi I **Credits:** 4
- HINDI 102 - Hindi II **Credits:** 4
- HINDI 201 - Hindi III **Credits:** 4
- HINDI 301 - Hindi IV **Credits:** 3

Social Sciences/Humanities Core (6 credit hours)

Students may select from existing courses, may take "topics" or "problems" courses that are not regularly scheduled, or they may transfer courses which are validated for K-State credit and approved by the Program Director. Regular course offerings currently include:

- ANTH 305 - Cultures of South Asia **Credits:** 3
- GEOG 506 - Geography of South Asia **Credits:** 3

- HIST 506 - Modern India and South Asia **Credits:** 3

Electives Courses with South Asian Content (6 credit hours)

At least two courses must be taken from the approved list of courses including at least 25% South Asian content.

College of Agriculture

- AGEC 615 - Global Agricultural and Economic Development **Credits:** 3
- GRSC 590 - Grain Science Problems **Credits:** 1-3
- GRSC 790 - Grain Science Problem **Credits:** 1-18 (Topic: Agriculture and Food Processing in North India)
- PMC 275 - Introduction to Natural Resource Management **Credits:** 3

College of Architecture

- IARC 406 - Problems in IARC **Credits:** 1-18 (Topic: Indian Art, Architecture and Culture)

College of Arts and Sciences

- ANTH 515 - Creativity and Culture: The Anthropology of Art **Credits:** 3
- ENGL 710 - Studies in a Literary Genre **Credits:** 3 (Topic: Childhood in India)
- GWSS 480 - Seminar in Gender, Environment and Justice **Credits:** 3
- GWSS 500 - Topics in Gender, Women, and Sexuality Studies **Credits:** 1-3 (Topic: Love and Sex in India)
- SOCIO 633 - Gender, Power, and Development **Credits:** 3

College of Business Administration

- MANGT 366 - Information Systems and Business Analytics **Credits:** 3
- MANGT 220 - Principles of Management **Credits:** 3
- MANGT 497 - Topics in Management **Credits:** 1-3 (Topic: Social Entrepreneurship)
- MANGT 531 - Human Resources Management **Credits:** 3
- MKTG 496 - Special Topics in Marketing **Credits:** 3 (Topic: Emerging Markets: Focus on India)

College of Education

- EDSP 795 - Problems in Special Education **Credits:** 1-18 (Topic: Service Learning in Developing Countries)
- LEAD 502 - Independent Study in Leadership Studies **Credits:** 0-3 (Topic: Social Entrepreneurship)

College of Engineering

- BAE 620 - Topics in Biological Systems Engineering **Credits:** 1-18

College of Health and Human Sciences

- FASH 340 - Fashion Aesthetics **Credits:** 3

College of Technology and Aviation - Polytechnic Campus

- BUS 315 - Supervisory Management **Credits:** 3
- MET 462 - Senior Design Project I **Credits:** 1
- MET 464 - Senior Design Project II **Credits:** 2

Study Abroad

Study abroad is strongly encouraged but, not required. Transfer credit may fulfill language, social sciences/humanities and/or elective requirements as approved by the Program Director in consultation with the student's academic advisor.

Supporting Activities

South Asian Studies website lays out rationale of the program.

Spanish Minor

Develop intermediate level language skills in Spanish as well as an interdisciplinary foundation in the culture of the Spanish-speaking world.

Program requirements

The following are the Spanish minor requirements:

- 18 credit hours of Spanish courses at the 200-level or above, must include a literature course.
- You must receive a "C" or better, or a minimum GPA of 2.5, in all courses counted toward a minor.
- Classes for the minor cannot be taken Pass/Fail. Retroactive Credit from KSU does apply toward the minor.
- We strongly encourage students to Study Abroad. While we will accept appropriate coursework taken toward the minor, no more than 6 credit hours of transfer courses may be used for the minor.

Spanish Language & Culture Courses (18 credit hours)

18 credit hours in Spanish at and above the 200-level, including:

SPAN 550 - Introduction to Hispanic Readings and Media

- SPAN 201 - Spanish III **Credits:** 3
- SPAN 301 - Spanish IV **Credits:** 3
  Or
- SPAN 302 - Spanish IV for Heritage Speakers **Credits:** 3
- SPAN 398 - Intermediate Studies in Spanish **Credits:** 1-18
- SPAN 410 - Spanish Communication through Pop Culture **Credits:** 3
  Or
- SPAN 411 - Spanish for heritage speakers: Composition and grammar **Credits:** 3
- SPAN 420 - Spanish Conversation **Credits:** 3

- SPAN 530 - Professional Spanish: Business **Credits:** 3
- SPAN 531 - Professional Spanish: Health and Human Services **Credits:** 3
- SPAN 550 - Introduction to Hispanic Readings and Media **Credits:** 3
- SPAN 560 - Cultures of the Spanish-speaking World: U.S. Latinx **Credits:** 3
- SPAN 565 - Cultures of the Spanish-speaking World: Spain **Credits:** 3
- SPAN 566 - Cultures of the Spanish-speaking World: Spanish America **Credits:** 3
- SPAN 567 - Cultures of the Spanish-speaking World: Transatlantic **Credits:** 3
- SPAN 568 - Literature of Spanish America **Credits:** 3
- SPAN 569 - Special Studies in Spanish **Credits:** 1-18
- SPAN 575 - Introduction to Spanish Translation **Credits:** 3
- SPAN 580 - Introduction to Spanish Linguistics **Credits:** 3
- SPAN 670 - Advanced Spanish Grammar **Credits:** 3
- SPAN 730 - Medieval Spanish Literature **Credits:** 3
- SPAN 731 - Early Modern Literature of Spain **Credits:** 3
- SPAN 732 - Cervantes **Credits:** 3
- SPAN 734 - 18th - and 19th - Century Spain **Credits:** 3
- SPAN 735 - 20th- and 21st-Century Spain **Credits:** 3
- SPAN 736 - Spanish Poetry **Credits:** 3
- SPAN 750 - Spanish American Narrative **Credits:** 3
- SPAN 751 - Spanish-American Narrative: Early Twentieth Century **Credits:** 3
- SPAN 752 - Spanish American Topics **Credits:** 3
- SPAN 755 - Spanish American Performance Studies **Credits:** 3
- SPAN 757 - Spanish-American Poetry **Credits:** 3
- SPAN 760 - U.S. Latinx Literature and Culture in Spanish **Credits:** 3
- SPAN 768 - Hispanic Cinema **Credits:** 3
- SPAN 771 - Advanced Spanish Translation **Credits:** 3
- SPAN 772 - Spain Today **Credits:** 3
- SPAN 773 - Spanish America Today **Credits:** 3
- SPAN 774 - Topics in Spanish Translation/Interpreting **Credits:** 3
- SPAN 776 - History of the Spanish Language **Credits:** 3
- SPAN 777 - Hispanic Cultures and Literatures: Teaching Strategies **Credits:** 3
- SPAN 779 - Selected Topics in Spanish **Credits:** 3

Total credit hours: 18

Spanish Translation Minor

Minor Program Requirements (18 credit hours)

Professional writing in English elective (3 credit hours)

Students complete one of the following courses:

- ENGL 302 - Technical Writing **Credits:** 3
- ENGL 400 - Advanced Expository Writing for Prospective Teachers **Credits:** 3

- ENGL 415 - Written Communication for Engineers **Credits:** 3
- ENGL 417 - Written Communication for the Workplace **Credits:** 3
- ENGL 510 - Introduction to Professional Writing **Credits:** 3
- ENGL 516 - Written Communication for the Sciences **Credits:** 3
- MC 200 - News Reporting and Writing Across Platforms **Credits:** 3
- MC 426 - Magazine Writing, Editing and Design **Credits:** 3

Approaches to language elective (3 credit hours)

Students must complete one of the following courses:

- ANTH 525 - Language and Culture **Credits:** 3
- ANTH 720 - Field Methods in Linguistics **Credits:** 3
- COMM 480 - Intercultural Communication **Credits:** 3
- ENGL 430 - The Structure of English **Credits:** 3
- ENGL 435 - Linguistics for Teachers of English **Credits:** 3
- ENGL 490 - Development of the English Language **Credits:** 3
- SPAN 580 - Introduction to Spanish Linguistics **Credits:** 3
- SPAN 670 - Advanced Spanish Grammar **Credits:** 3
- SPAN 776 - History of the Spanish Language **Credits:** 3

Professional Spanish (3 credit hours)

Students must complete one of the following courses:

- SPAN 530 - Professional Spanish: Business **Credits:** 3
- SPAN 531 - Professional Spanish: Health and Human Services **Credits:** 3

Core Courses (9 credit hours)

Students complete all of the following courses:

- SPAN 575 - Introduction to Spanish Translation **Credits:** 3
- SPAN 771 - Advanced Spanish Translation **Credits:** 3
- SPAN 774 - Topics in Spanish Translation/Interpreting **Credits:** 3

Total credit hours: (18)

Other Program Choices

Modern Languages - French (BA) Academic Degree Map

First Year	Hours	K-State Core

Semester 1		
FREN 101 - French I (Elementary French I)	4	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Social and Behavioral Sciences Requirement	3	**KSC 050**
ENGL 100 - Expository Writing I	3	**KSC 010**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 14		
Semester 2		
FREN 102 - French II	4	
Natural and Physical Sciences Requirement	4	**KSC 040**
Arts and Humanities Requirement	3	**KSC 060**
ENGL 200 - Expository Writing II	3	**KSC 010**
Free Elective	2	
Total Credits: 16		
Second Year		
Semester 1		
FREN 201 - French III	3	
Communications Requirement	3	**KSC 020**
Social and Behavioral Sciences Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		

Semester 2		
FREN 301 - French IV	3	
FREN 518 -French Conversation	3	
Social and Behavioral Sciences Requirement	3	
Free Elective	3	
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Third Year		
Semester 1		
FREN 520 - Introduction to French Literature (19th Century to the Present) **OR**	3	
FREN 530 - Topics in French/Francophone Literature and Culture	3	
FREN 500-level course	3	
Outside Concentration	3	
Ethical reasoning overlay & Humanities elective	3	
Fine Arts elective (Choose this or Humanites elective to be 300 level or above or course w/ prereq in same area.)	3	
Total Credits: 15		
Semester 2		
FREN 500-level course	3	
FREN 500-level course	3	
Outside Concentration	3	
US Multicultural overlay/ Free elective	3	
Natural Science or Quantitative elective	3	
Total Credits: 15		

Fourth Year			
Semester 1			
FREN 500-level course (FREN 500 to 799)	3		
FREN 600 or 700-level course (FREN 600 to 799)	3		
Outside Concentration	3		
Natural Science, Quantitative, or Social Science w/math or STAT pre-req elective (Choose 300 level or above or course w/ prereq in same area.)	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
FREN 600 or 700-level course (FREN 600 to 799)	3		
FREN 600 or 700-level course (FREN 600 to 799)	3		
Outside Concentration/ Free Elective	3		
Outside Concentration/ Free Elective	3		
Global Prespectives Overlay/ Free Elective	3		
Total Credits: 15			
Total Program Hours: 120			

Modern Languages - French with Distinction (BA) Academic Degree Map

First Year	Hours	K-State	
Semester 1			
FREN 101 - French I (Elementary French I)	4		

MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Social and Behavioral Sciences Requirement	3	**KSC 050**
ENGL 100 - Expository Writing I	3	**KSC 010**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 14		
Semester 2		
FREN 102 - French II	4	
Natural and Physical Sciences Requirement	4	**KSC 040**
Arts and Humanities Requirement	3	**KSC 060**
ENGL 200 - Expository Writing II	3	**KSC 010**
Free Elective	2	
Total Credits: 16		
Second Year		
Semester 1		
FREN 201 - French III	3	
Comunications Requirement	3	**KSC 020**
Social and Behavioral Sciences Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**

Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Semester 2		
FREN 301 - French IV	3	
FREN 518 - French Conversation	3	
Social and Behavioral Sciences Requirement	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Fine Arts Elective (Choose this or Humanities elective to be 300 level or above or course w/ prereq in same area.)	3	
Total Credits: 15		
Third Year		
Semester 1		
FREN 520 - Introduction to French Literature (19th Century to the Present) **OR**	3	
FREN 530 - Topics in French/Francophone Literature and Culture	3	
FREN 500-level course	3	
FREN 500-level course	3	
Ethical reasoning overlay & Humanities elective	3	
Outside Concentration	3	
Total Credits: 15		
Semester 2		
FREN 500-level course	3	
FREN 500-level course	3	

Outside Concentration	3		
US Multicultural Overlay/ Free Elective	3		
Natural Science or Quantitative Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
FREN 500-level course (FREN 500 to 799)	3		
FREN 600 OR 700-level course (FREN 600 to 799)	3		
FREN 600 OR 700-level course (FREN 600 to 799)	3		
Natural Science, Quantitative, or Social Science w/math or STAT pre-req elective (Choose 300 level or above or course w/ prereq in same area)	3		
Outside concentration	3		
Total Credits: 15			
Semester 2			
FREN 600 OR 700-level course (FREN 600 to 799)	3		
FREN 600 OR 700-level course (FREN 600 to 799)	3		
Outside Concentration/ Free Elective	3		
Outside Concentration/ Free Elective	3		
Global Perspectives Overlay/ Free Elective	3		
Total Credits: 15			
Total Program Hours: 120			

Modern Languages - German (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
GRMN 101 - German I	4	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Social and Behavioral Sciences Requirement	3	**KSC 050**
ENGL 100 - Expository Writing I	3	**KSC 010**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 14		
Semester 2		
GRMN 102 - German II	4	
Natural and Physical Sciences Requirement	4	**KSC 040**
Arts and Humanities Requirement	3	**KSC 060**
ENGL 200 - Expository Writing II	3	**KSC 010**
Free Elective	2	
Total Credits: 16		
Second Year		
Semester 1		
GRMN 201 - German III	3	
Communications Requirement	3	**KSC 020**
Social and Behavioral Sciences Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		

Semester 2		
GRMN 301 - German IV	3	
GRMN 527 - Advanced German Conversation	3	
Social and Behavioral Sciences Requirement	3	
Free Elective	3	
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Third Year		
Semester 1		
GRMN 521 - Introductory Topics in German Literature and Culture of the 18th and 19th century **OR**	3	
GRMN 522 - Introductory Topics in German Literature and Culture of the 20th and 21st century **OR**	3	
GRMN 530 - German Cultural Studies and History	3	
GRMN 500-level course	3	
Outside Concentration	3	
Ethical Reasoning Overlay and Humanities Elective	3	
Fine arts Elective (Choose this or Humanities elective to be 300 level or above or course w/ prereq in same area)	3	
Total Credits: 15		
Semester 2		
GRMN 500-level course	3	
GRMN 500-level course	3	
Outside Concentration	3	
US Multicultural Overlay/Free Elective	3	

Natural Science or Quantitative Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
GRMN 500-level course (GRMN 500 to 799)	3		
GRMN 600 or 700-level course (GRMN 600 to 799)	3		
Outside Concentration	3		
Natural Science, Quantitative, or Social Science W/Math or Stat Pre-Req Elective (Choose 300 level or above or course w/ prereq in same area)	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
GRMN 600 or 700-level course (GRMN 600 to 799)	3		
GRMN 600 or 700-level course (GRMN 600 to 799)	3		
Outside Concentration/Free Elective	3		
Outside Concentration/Free Elective	3		
Global Perspectives Overlay/Free Elective	3		
Total Credits: 15			
Total Program Hours: 120			

Modern Languages - German with Distinction (BA) Academic Degree Map

First Year	Hours	K-State Core	

Semester 1		
GRMN 101 - German I	4	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Social and Behavorial Sciences Requirement	3	**KSC 050**
ENGL 100 - Expository Writing I	3	**KSC 010**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 14		
Semester 2		
GRMN 102 -German II	4	
Natural and Physical Sciences Requirement	4	**KSC 040**
Arts and Humanitites Requirement	3	**KSC 060**
ENGL 200 - Expository Writing II	3	**KSC 010**
Free Elective	2	
Total Credits: 16		
Second Year		
Semester 1		
GRMN 201 - German III	3	
Communications Requirement	3	**KSC 020**
Social and Behavorial Sciences Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Arts and Humanitites Requirement	3	**KSC 060**
Total Credits: 15		

Semester 2		
GRMN 301 - German IV	3	
GRMN 527 - Advanced German Conversation	3	
Social and Behavorial Sciences Requirement	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Fine Arts Elective (Choose this or Humanities elective to be 300 level or above or course w/ prereq in same area)	3	
Total Credits: 15		
Third Year		
Semester 1		
GRMN 521 - Introductory Topics in German Literature and Culture of the 18th and 19th century **OR**	3	
GRMN 522 - Introductory Topics in German Literature and Culture of the 20th and 21st century **OR**	3	
GRMN 530 - German Cultural Studies and History	3	
GRMN 500-level course	3	
GRMN 500-level course	3	
Ethical Reasoning Overlay and Humanities Elective	3	
Outside Concentration	3	
Total Credits: 15		
Semester 2		
GRMN 500-level course	3	
GRMN 500-level course	3	
Outside Concentration	3	
US Multicultural Overlay/Free Elective	3	
Natural Science or Quantitative Elective	3	

Total Credits: 15		
Fourth Year		
Semester 1		
GRMN 500-level course (GRMN 500 to 799)	3	
GRMN 600 or 700-level course (GRMN 600 to 799)	3	
GRMN 600 or 700-level course (GRMN 600 to 799)	3	
Natural Science, Quantitative, or Social Science W/Math or Stat Pre-Req Elective (Choose 300 level or above or course w/prereq in same area)	3	
Outside Concentration	3	
Total Credits: 15		
Semester 2		
GRMN 600 or 700-level course (GRMN 600 to 799)	3	
GRMN 600 or 700-level course (GRMN 600 to 799)	3	
Outside Concentration/Free Elective	3	
Outside Concentration/Free Elective	3	
Global Perspectives Overlay/Free Elective	3	
Total Credits: 15		
Total Program Hours: 120		

Modern Languages - Spanish (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		

SPAN 101 - Spanish I	4	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Social and Behavioral Science Requirement	3	**KSC 050**
ENGL 100 - Expository Writing I	3	**KSC 010**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 14		
Semester 2		
SPAN 102 - Spanish II	4	
Natural and Physical Sciences Requirement	4	**KSC 040**
Arts and Humanities Requirement	3	**KSC 060**
ENGL 200 -Expository Writing II	3	**KSC 010**
Free Elective	2	
Total Credits: 16		
Second Year		
Semester 1		
SPAN 201 - Spanish III	3	
Communications Requirement	3	**KSC 020**
Social and Behavioral Science Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		

SPAN 301 - Spanish IV **OR**	3	
SPAN 302 - Spanish IV for Heritage Speakers	3	
SPAN 410 - (Spanish Communication through Pop Culture	3	
Social and Behavioral Science Requirement	3	
Free Elective	3	
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Third Year		
Semester 1		
SPAN 500 - level course	3	
Outside Concentration	3	
Ethical Reasoning Overlay & Humanities Elective	3	
Fine Arts Elective (300 level or above or course w/prereq in the same area)	3	
SPAN 550 - Introduction to Hispanic Readings and Media	3	
Total Credits: 15		
Semester 2		
SPAN 500 - level course	3	
SPAN 500 - level course	3	
Outside Concentration	3	
US Multicultural Overlay/Free Elective	3	
Natural Science or Quantitative Elective	3	
Total Credits: 15		

Fourth Year		
Semester 1		
SPAN 500-level course (SPAN 500 to 799)	3	
SPAN 600 or 700-level course (SPAN 600 to 799)	3	
Outside Concentration	3	
Natural Science, Quantitative, or Social Science w/MATH or STAT Pre-Req Elective (choose 300 level or above or course w/prereq in the same area)	3	
Free Elective	3	
Total Credits: 15		
Semester 2		
SPAN 600 or 700-level course (SPAN 600 to 799)	3	
SPAN 600 or 700-level course (SPAN 600-799)	3	
Outside Concentration/Free Elective	3	
Outside Concentration/Free Elective	3	
Global Perspectives Overlay/Free Elective	3	
Total Credits: 15		
Total Program Hours: 120		

Modern Languages - Spanish with Distinction (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
SPAN 101 - Spanish I	4	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**

Social and Behavioral Sciences Requirement	3	**KSC 050**
ENGL 100 - Expository Writing I	3	**KSC 010**
DAS 101 -Discover, Create, and Thrive: Arts and Sciences Orientation 1		
Total Credits: 14		
Semester 2		
SPAN 102 -Spanish II	4	
Natural and Physical Science Requirement	4	**KSC 040**
Arts and Humanities Requirement	3	**KSC 060**
ENGL 200 - Expository Writing II	3	**KSC 010**
Free Elective {Institutionally Designated Area}	2	**KSC 070**
Total Credits: 16		
Second Year		
Semester 1		
SPAN 201 - Spanish III	3	
Communications Requirement	3	**KSC 020**
Social and Behavioral Science Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Art and Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Semester 2		
SPAN 301 - Spanish IV **OR**	3	
SPAN 302 - Spanish IV for Heritage Speakers	3	

SPAN 410 - Spanish Communication through Pop Culture	3		
Total Credits: 15			
Third Year			
Semester 1			
SPAN 500-level course	3		
SPAN 500-level course	3		
Ethical Reasoning Overlay & Humanities Elective	3		
Outside Concentration	3		
SPAN 550 - Introduction to Hispanic Readings and Media	3		
Total Credits: 15			
Semester 2			
SPAN 500-level course	3		
SPAN 500-level course	3		
Outside Concentration (US Multicultural Overlay)	3		
Natural Science or Quantitative Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
SPAN 500-level course (SPAN 500 to 799)	3		
SPAN 600 or 700-level course (SPAN 600 to 799)	3		
SPAN 600 or 700-level course (SPAN 600 to 799)	3		
Natural Science, Quantitative, or Social Science w/MATH or STAT prereq elective	3		

Outside Concentration	3		
Total Credits: 15			
Semester 2			
SPAN 600 or 700-level course (SPAN 600 to 799)	3		
SPAN 600 or 700-level course (SPAN 600 to 799)	3		
Outside Concentration/Free Elective	3		
Outside Concentration/Free Elective	3		
Global Perspectives Overlay/Free Elective	3		
Total Credits: 15			
Total Program Hours: 120			

Music, Theatre and Dance

Bryan Pinkall, Director

109 McCain Auditorium
785-532-5740
Fax: 785-532-6899
E-mail: mtdksu@k-state.edu
www.k-state.edu/mtd/

The School of Music, Theatre, and Dance was given school status in June of 2012 by the Kansas Board of Regents. The school has three associate directors as follows:
Kurt Gartner, Associate Director - Music
David Mackay, Associate Director - Theatre
Kate Digby, Associate Director – Dance
Benjamin Stark, Associate Director – Production and Facilities

Music Program

The Music Program is a member, with institutional accreditation, of the National Association of Schools of Music.

Curricula in music education with emphases in choral and instrumental and music performance with emphases in music theatre, composition, voice, piano, organ, strings, woodwind, percussion, and brass instruments are offered. Courses in music are available to any student enrolled in the university, subject to prerequisites listed in the course descriptions. Courses in

performance do not require prerequisites for those not majoring in music; however, availability of instructor and fees for non-majors are factors in securing performance instruction. This elective credit cannot be used later toward a music degree unless it meets the requirements of that course as it applies to those majoring in music. No more than two credits a semester will be granted for performance as an elective.

Entrance requirements

New and transfer students

Preliminary placement examinations in piano, the performance major, and theory must be taken by all students majoring in music regardless of the curriculum selected. Students will be advised as to the most appropriate field of concentration and the proper level of study as a result of examination.

Divisional hearings will determine the number of upper-level hours that will be accepted for transfer students.

Students who, on the basis of auditions in their major performance area, have been determined by the faculty to perform at a level lower than that acceptable for MUSIC 255 will not be allowed to declare a major in music. They will be required to enroll in MUSIC 251 Pre-Applied Study until such time that their proficiency level is acceptable for MUSIC 255.

If, on the basis of audition, a music major with voice as the primary applied study is determined by the faculty to lack sufficient proficiency to be a member of a major performing ensemble that student must enroll in Voice Class. A maximum of two semesters of Voice Class may be substituted for the major ensemble requirements.

General regulations for all performance areas

As a part of performance requirements, studio and divisional seminars and general student recitals are held regularly. Each student is required to perform at least once a semester either in a studio seminar or in a student recital. All private study for credit will culminate in a jury exam each semester.

Each division faculty maintains the right to advise students to discontinue performance study in that particular curriculum if the students have not demonstrated the necessary degree of progress.

For specific divisional requirements, each student should request a copy of detailed policies.

Participation in a major ensemble for a minimum of one credit hour in the student's major performance area selected with the advice of a departmental advisor is required each semester. Piano and organ majors may elect either instrumental or choral major ensembles to satisfy requirements.

As an extension of the study of an instrument or voice, attendance at studio and divisional seminars is required each semester.

Required recital attendance

Attendance at a minimum of 9 recitals or concerts per semester for seven semesters is required for graduation. Transfer students' records will be evaluated.

Proficiencies

Music majors will enroll in MUSIC 322 Aural Skills Proficiency concurrently with MUSIC 360 and MUSIC 361. Credit for MUSIC 322 is earned by passing the aural proficiency exam. Successful completion of MUSIC 322 is a prerequisite for enrollment in MUSIC 517, 518, 525, and 532. (Exception for placement of transfer students.)

MUSIC 060 Piano Proficiency requirements must be met prior to graduation.

Fees for private music lessons

University students enrolled in the bachelor of music, bachelor music education, bachelor of arts in music degrees or who are minoring in music, are exempt from fees for private music lessons and music practice facilities.

There is an additional fee for students not majoring or minoring in one of these music curricula who take private music instruction (pending availability of staff and facilities). Contact the School of Music, Theatre, and Dance for current amounts.

Theatre Program

The Theatre Program is accredited by the National Association of Schools of Theatre (NAST). There are no admittance requirements into the threatre program beyond those for admittance into Kansas State University.

Bachelor of Arts

Music (BA)

The bachelor of arts with a major in music emphasizes the liberal arts tradition. The program provides enough flexibility in electives for students to meet other preprofessional requirements, and it thus may appeal to students whose professional goals do not terminate with music. The major program of music leading to the bachelor of arts degree may be elected with an emphasis in the areas of music literature, composition, or performance.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

MUSIC 101 - A New Rhythm: Cultivating a Healthy Life in College and Beyond **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Music, Theatre, and Dance, etc,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for MUSIC, THTRE, and DANCE) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Music Program Requirements

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Music Fundamentals: 22 Credit Hours

MUSIC 210 - Music Theory I **Credits:** 3
MUSIC 211 - Piano Class I **Credits:** 1
MUSIC 212 - Piano Class II **Credits:** 1
MUSIC 213 - Piano Class III **Credits:** 1
MUSIC 214 - Piano Class IV **Credits:** 1
MUSIC 230 - Music Theory II **Credits:** 3
MUSIC 231 - Aural Skills I **Credits:** 1
MUSIC 249 - Introduction to Music of the World **Credits:** 3
MUSIC 320 - Music Theory III **Credits:** 3
MUSIC 321 - Aural Skills II **Credits:** 1
MUSIC 360 - Music Theory IV **Credits:** 3
MUSIC 361 - Aural Skills III **Credits:** 1

Advanced Music Studies: 16 Credit Hours

MUSIC 466 - Music History I: Ancient Greece to Beethoven **Credits:** 3

MUSIC 467 - Music History II: Beethoven to Present **Credits:** 3

Select one music history course at the 700-level

MUSIC 703 - Graduate History Review **Credits:** 2
MUSIC 704 - Symphonic Literature **Credits:** 3
MUSIC 705 - Chamber Music Literature **Credits:** 3
MUSIC 706 - Song Literature **Credits:** 3
MUSIC 707 - History of Wind Bands **Credits:** 3
MUSIC 708 - Choral Literature **Credits:** 3
MUSIC 709 - History of School Choral Music **Credits:** 3
MUSIC 726 - History of the Opera **Credits:** 3
MUSIC 727 - Introduction to Historical Performance Practice **Credits:** 3
MUSIC 737 - Organ Literature **Credits:** 3
MUSIC 738 - Piano Literature **Credits:** 3
MUSIC 740 - Studies in Music Literature **Credits:** 3
MUSIC 766 - Seminar in the Life and Works of an Individual Composer **Credits:** 3

Select 7 hours in any additional music courses

MUSIC 767 - Topics in American Music **Credits:** 3

Studio Lessons: 4 Credit Hours

MUSIC 255 - Lower-Division Performance **Credits:** 1-4

Organizational Requirement: 8 Credit Hours

Eight credits from any of the following ensembles.

MUSIC 111 - Concert Choir **Credits:** 0-1
MUSIC 112 - University Choir **Credits:** 0-1
MUSIC 113 - University Band **Credits:** 0-1
MUSIC 114 - Cat Band **Credits:** 0-1
MUSIC 115 - Marching Band **Credits:** 0-1
MUSIC 116 - Concert Band **Credits:** 0-1
MUSIC 117 - Wind Symphony **Credits:** 0-1
MUSIC 118 - Jazz Ensemble Lab A **Credits:** 0-1
MUSIC 121 - Collegiate Chorale **Credits:** 0-1
MUSIC 129 - University Orchestra **Credits:** 0-1
MUSIC 130 - Symphony Orchestra **Credits:** 0-1
MUSIC 131 - Theatre Orchestra **Credits:** 0-1
MUSIC 135 - University Tenor/Bass Choir **Credits:** 0-1
MUSIC 140 - University Treble Chorus **Credits:** 0-1
MUSIC 400 - Concert Choir **Credits:** 0-1
MUSIC 401 - Concert Band **Credits:** 0-1
MUSIC 402 - Wind Ensemble **Credits:** 0-1
MUSIC 403 - Collegiate Chorale **Credits:** 0-1
MUSIC 404 - Symphony Orchestra **Credits:** 0-1
MUSIC 406 - Collegiate Jazz Ensemble **Credits:** 0-1
MUSIC 408 - University Tenor/Bass Choir-Upper Division **Credits:** 0-1
MUSIC 409 - University Treble Chorus-Upper Division **Credits:** 0-1
MUSIC 411 - Marching Band **Credits:** 0-1

MUSIC 412 - University Band **Credits:** 0-1
MUSIC 414 - Theatre Orchestra **Credits:** 0-1
MUSIC 416 - Cat Band Upper Division **Credits:** 0-1

BA Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Natural and Quantitative Restricted Electives: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 0-8 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Theatre (BA)

The mission of the theatre program is to develop human potential, expand knowledge, and enrich cultural understanding and expression through high quality undergraduate and graduate education. Through scholarship/research, service, and production, the theatre program seeks to train future artists, scholars and teachers of theatre, and to inform the non-major, the university at large, and the surrounding community of the value of theatre to individuals and society.

The program offers both broad training in the various sub-disciplines of Theatre Art (scenic, costume, lighting and sound design, acting, directing, stage management, theatre history and literature, drama therapy and dance), as well as the possibility of specialization within a single area. Students are presented with the opportunity to engage in both a greater theoretical understanding of theatre, and are also given systematic training in the various practical skills of production and performance. This structure puts into place the basis for continued advanced academic training, and/or participation in the professional theatre. KSU Theatre is the only program in Kansas accredited by the National Association of Schools of Theatre.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

MUSIC 101 - A New Rhythm: Cultivating a Healthy Life in College and Beyond **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Music, Theater and Dance,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for **MUSIC, THTRE and DANCE**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Theatre Studies: 33 Credit Hours

THTRE 111 - Production Participation **Credits:** 1
THTRE 171 - Fundamentals of Acting **Credits:** 3
THTRE 211 - Run Crew **Credits:** 0-2
THTRE 212 - Wardrobe Crew **Credits:** 1
THTRE 270 - Introduction to Theatre **Credits:** 3
THTRE 280 - Script Analysis **Credits:** 3
THTRE 366 - Fundamentals of Theatre Management **Credits:** 3
THTRE 269 - Fundamentals of Technical Production **Credits:** 3
THTRE 369 - Fundamentals of Theatrical Design **Credits:** 3
THTRE 565 - Principles of Directing **Credits:** 3
THTRE 572 - History of Theatre I **Credits:** 3
THTRE 573 - History of Theatre II **Credits:** 3
THTRE 599 - Senior Seminar **Credits:** 3

Professional Development Elective: 2 Credit Hours

Select 2 credit hours from the below:

DANCE 510 - CAPSTONE PROJECT **Credits:** 2
THTRE 661 - Professional Development **Credits:** 1

Civilizations/History Requirement: 6 Credit Hours

HIST 101 - Western Civilization I: Ancient Greece to Early Modern Europe **Credits:** 3
HIST 102 - Western Civilization II: Europe in the Modern World **Credits:** 3

Practicum: 1 Credit Hour

Select 1 credit hour from the below

DANCE 502 - Performance Production **Credits:** 0-1
THTRE 211 - Run Crew **Credits:** 0-2
THTRE 212 - Wardrobe Crew **Credits:** 1
THTRE 566 - Rehearsal Techniques **Credits:** 0-12
THTRE 710 - Practicum in Theatre **Credits:** 0-6

Performing Arts Electives: 12 Credit Hours

Select 12 hours from the below

ENGL 345 - Drama **Credits:** 3
Any additional DANCE course except DANCE 502
Any additional THTRE course
ENGL 350 - Introduction to Shakespeare **Credits:** 3

BA Arts, Humanities, and Social Sciences Requirement: 3 Credit Hours

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 0-10 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Bachelor of Music

Applied Music - Composition (BM)

The Bachelor of Music in Applied Music is a four-year program preparing performers in discipline of their choice. Students will select from voice, instrumental, musical theatre, or composition to serve as their area of study.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 credit hour

MUSIC 101 - A New Rhythm: Cultivating a Healthy Life in College and Beyond **Credits:** 1

Overlays: [9] credit hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC 030

MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Music Fundamentals: 22 credit hours

MUSIC 210 - Music Theory I **Credits:** 3
MUSIC 211 - Piano Class I **Credits:** 1
MUSIC 212 - Piano Class II **Credits:** 1
MUSIC 213 - Piano Class III **Credits:** 1
MUSIC 214 - Piano Class IV **Credits:** 1
MUSIC 230 - Music Theory II **Credits:** 3
MUSIC 231 - Aural Skills I **Credits:** 1
MUSIC 249 - Introduction to Music of the World **Credits:** 3
MUSIC 320 - Music Theory III **Credits:** 3
MUSIC 321 - Aural Skills II **Credits:** 1
MUSIC 360 - Music Theory IV **Credits:** 3
MUSIC 361 - Aural Skills III **Credits:** 1

Advanced Music Studies: 15 credit hours

MUSIC 173 - Music as Protest and Propaganda in the United States **Credits:** 3
MUSIC 365 - Conducting **Credits:** 1
MUSIC 466 - Music History I: Ancient Greece to Beethoven **Credits:** 3
MUSIC 467 - Music History II: Beethoven to Present **Credits:** 3
MUSIC 469 - Instrumentation and Arranging **Credits:** 2
MUSIC 700+: Choose one 700-level Music History

Studio Lessons: 8 credit hours

MUSIC 255 - Lower-Division Performance **Credits:** 1-4
MUSIC 455 - Upper-Division Performance **Credits:** 0-4

Organizational Requirement: 8 credit hours

Students must participate in a major ensemble each semester in which they are enrolled.

Once the 8 credit hours for the organizational requirement have been met, a student must take an ensemble for 0 credits every semester in which they are enrolled until degree completion/graduation.

MUSIC 111 - Concert Choir **Credits:** 0-1
MUSIC 115 - Marching Band **Credits:** 0-1
MUSIC 116 - Concert Band **Credits:** 0-1
MUSIC 117 - Wind Symphony **Credits:** 0-1
MUSIC 118 - Jazz Ensemble Lab A **Credits:** 0-1
MUSIC 121 - Collegiate Chorale **Credits:** 0-1
MUSIC 130 - Symphony Orchestra **Credits:** 0-1

MUSIC 135 - University Tenor/Bass Choir **Credits:** 0-1
MUSIC 140 - University Treble Chorus **Credits:** 0-1
MUSIC 400 - Concert Choir **Credits:** 0-1
MUSIC 401 - Concert Band **Credits:** 0-1
MUSIC 402 - Wind Ensemble **Credits:** 0-1
MUSIC 403 - Collegiate Chorale **Credits:** 0-1
MUSIC 404 - Symphony Orchestra **Credits:** 0-1
MUSIC 406 - Collegiate Jazz Ensemble **Credits:** 0-1
MUSIC 408 - University Tenor/Bass Choir-Upper Division **Credits:** 0-1
MUSIC 409 - University Treble Chorus-Upper Division **Credits:** 0-1
MUSIC 411 - Marching Band **Credits:** 0-1

Recitals: 3 credit hours

MUSIC 501 - Half Recital **Credits:** 1
MUSIC 502 - Full Recital **Credits:** 2

Techniques Courses: 29 credit hours

Must complete at least 4 credit hours of MUSIC 323:
MUSIC 323 - Lower-Division Composition **Credits:** 1-18
Must complete at least 3 credit hours of MUSIC 523:
MUSIC 523 - Upper-Division Composition **Credits:** 0-18
MUSIC 724 - 18th Century Counterpoint **Credits:** 2
MUSIC 725 - Theories of Contemporary Music **Credits:** 2
MUSIC 731 - Music Business 1 **Credits:** 2
MUSIC 732 - Music Business 2 **Credits:** 2
MUSIC 734 - Technology of the Electronic Music Studio **Credits:** 2
MUSIC 735 - Digital Sound Synthesis **Credits:** 2
Music and Humanities Electives
Choose one of the following courses:
MUSIC 714 - Advanced Orchestration **Credits:** 2
OR
MUSIC 722 - Arranging for Bands **Credits:** 2

Total Hours Required for Graduation: 120

Applied Music - Instrumental Performance (BM)

The Bachelor of Music in Applied Music is a four-year program preparing performers in discipline of their choice. Students will select from voice, instrumental, musical theatre, or composition to serve as their area of study.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for

institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: (1 credit hour)

MUSIC 101 - A New Rhythm: Cultivating a Healthy Life in College and Beyond **Credits:** 1

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC 030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Instrumental Performance Courses

Music Fundamentals: (22 credit hours)

All of the following courses are required

MUSIC 210 - Music Theory I **Credits:** 3
MUSIC 211 - Piano Class I **Credits:** 1
MUSIC 212 - Piano Class II **Credits:** 1
MUSIC 213 - Piano Class III **Credits:** 1
MUSIC 214 - Piano Class IV **Credits:** 1
MUSIC 230 - Music Theory II **Credits:** 3
MUSIC 231 - Aural Skills I **Credits:** 1
MUSIC 249 - Introduction to Music of the World **Credits:** 3
MUSIC 320 - Music Theory III **Credits:** 3
MUSIC 321 - Aural Skills II **Credits:** 1
MUSIC 360 - Music Theory IV **Credits:** 3
MUSIC 361 - Aural Skills III **Credits:** 1

Advanced Music Studies: (15 credit hours)

MUSIC 173 - Music as Protest and Propaganda in the United States **Credits:** 3
MUSIC 365 - Conducting **Credits:** 1
MUSIC 466 - Music History I: Ancient Greece to Beethoven **Credits:** 3
MUSIC 467 - Music History II: Beethoven to Present **Credits:** 3
MUSIC 469 - Instrumentation and Arranging **Credits:** 2
MUSIC 700+: Choose one 700-level Music History

Studio Lessons: (19 credit hours)

Students are required to take 8 credit hours of MUSIC 255

Students are required to take 11 credit hours of MUISC 455

MUSIC 255 - Lower-Division Performance **Credits:** 1-4
MUSIC 455 - Upper-Division Performance **Credits:** 0-4

Organizational Requirement: (12 credit hours)

Major Ensemble: (8 credit hours)

Must be enrolled in one major ensemble each of the first eight semesters on campus.

Once the requirements are met 0 credits for the remainder of the matricualtion is expected.

MUSIC 111 - Concert Choir **Credits:** 0-1
MUSIC 115 - Marching Band **Credits:** 0-1
MUSIC 116 - Concert Band **Credits:** 0-1
MUSIC 117 - Wind Symphony **Credits:** 0-1
MUSIC 118 - Jazz Ensemble Lab A **Credits:** 0-1
MUSIC 121 - Collegiate Chorale **Credits:** 0-1
MUSIC 130 - Symphony Orchestra **Credits:** 0-1
MUSIC 135 - University Tenor/Bass Choir **Credits:** 0-1
MUSIC 140 - University Treble Chorus **Credits:** 0-1
MUSIC 400 - Concert Choir **Credits:** 0-1
MUSIC 401 - Concert Band **Credits:** 0-1
MUSIC 402 - Wind Ensemble **Credits:** 0-1
MUSIC 403 - Collegiate Chorale **Credits:** 0-1
MUSIC 404 - Symphony Orchestra **Credits:** 0-1
MUSIC 406 - Collegiate Jazz Ensemble **Credits:** 0-1
MUSIC 408 - University Tenor/Bass Choir-Upper Division **Credits:** 0-1
MUSIC 409 - University Treble Chorus-Upper Division **Credits:** 0-1
MUSIC 411 - Marching Band **Credits:** 0-1

Chamber Ensemble (4 credit hours)

Minimum of 4 credit hours.

Once the requirements are met 0 credits for the remainder of the matricualtion is expected.

MUSIC 280 - Lower-Division Ensemble Performance **Credits:** 1
MUSIC 350 - Collaborative Piano-Studio **Credits:** 1
MUSIC 351 - Collaborative Piano-Recital **Credits:** 1
MUSIC 480 - Upper-Division Ensemble Performance **Credits:** 1

Recitals: (3 credit hours)

MUSIC 501 - Half Recital **Credits:** 1
Take for 1 credit hour
MUSIC 502 - Full Recital **Credits:** 2
Take for 2 credit hours

Techniques Courses: (10 credit hours)

MUSIC 714 - Advanced Orchestration **Credits:** 2
OR
MUSIC 722 - Arranging for Bands **Credits:** 2
MUSIC 464 - Methods and Materials for the Studio **Credits:** 2
MUSIC 724 - 18th Century Counterpoint **Credits:** 2
MUSIC 725 - Theories of Contemporary Music **Credits:** 2
MUSIC 731 - Music Business 1 **Credits:** 2

Music & Humanities Electives: (4 credit hours)

Students must take 4 credit hours from any of the following:

Any Music courses from 100-299

Any MUSIC courses from 724-725

No more than 3 credits from a course in ART, CLSCS, COMM, DANCE, ENGL, HIST, MC, PHILO, THTRE, or any Modern Language

Total Hours Required for Graduation: 120

Applied Music - Musical Theatre (BM)

The Bachelor of Music in Applied Music is a four-year program preparing performers in discipline of their choice. Students will select from voice, instrumental, musical theatre, or composition to serve as their area of study.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 credit hour

MUSIC 101 - A New Rhythm: Cultivating a Healthy Life in College and Beyond **Credits:** 1

Overlays: [9] credit hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Program

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC 030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Music Fundamentals: 22 credit hours

MUSIC 210 - Music Theory I **Credits:** 3
MUSIC 211 - Piano Class I **Credits:** 1
MUSIC 212 - Piano Class II **Credits:** 1
MUSIC 213 - Piano Class III **Credits:** 1
MUSIC 214 - Piano Class IV **Credits:** 1
MUSIC 230 - Music Theory II **Credits:** 3
MUSIC 231 - Aural Skills I **Credits:** 1
MUSIC 249 - Introduction to Music of the World **Credits:** 3
MUSIC 320 - Music Theory III **Credits:** 3
MUSIC 321 - Aural Skills II **Credits:** 1
MUSIC 360 - Music Theory IV **Credits:** 3
MUSIC 361 - Aural Skills III **Credits:** 1

Advanced Music Studies: 9 credit hours

MUSIC 173 - Music as Protest and Propaganda in the United States **Credits:** 3
MUSIC 466 - Music History I: Ancient Greece to Beethoven **Credits:** 3
MUSIC 467 - Music History II: Beethoven to Present **Credits:** 3

Studio Lessons: 13 credit hours

8 credit hours of MUSIC 255

5 credit hours of MUSIC 455

MUSIC 255 - Lower-Division Performance **Credits:** 1-4
Students must take a total of 8 credit hours of MUSIC 255
Students must take a total of 11 credit hours of MUSIC 455
MUSIC 455 - Upper-Division Performance **Credits:** 0-4

Recitals: 3 credit hours

MUSIC 501 - Half Recital **Credits:** 1
MUSIC 502 - Full Recital **Credits:** 2

Techniques Courses: 38 credit hours

MUSIC 156 - Introduction to the Broadway Musical **Credits:** 3
MUSIC 233 - English Diction **Credits:** 1
MUSIC 268 - Vocal Pedagogy **Credits:** 2
DANCE 120 - Contemporary Dance I **Credits:** 2-3
DANCE 280 - Musical Theatre Dance **Credits:** 2-3
MUSIC 731 - Music Business 1 **Credits:** 2
THTRE 211 - Run Crew **Credits:** 0-2
THTRE 171 - Fundamentals of Acting **Credits:** 3
THTRE 271 - Intermediate Acting **Credits:** 3
THTRE 369 - Fundamentals of Theatrical Design **Credits:** 3
THTRE 560 - Advanced Stage Movement **Credits:** 3
THTRE 572 - History of Theatre I **Credits:** 3
THTRE 761 - Advanced Acting: Decolonizing the Classics **Credits:** 3 *Diction Elective: choose one of the courses below:*
MUSIC 241 - Italian Diction **Credits:** 1
MUSIC 242 - French Diction **Credits:** 1
MUSIC 243 - German Diction **Credits:** 1 **Workshop Requirement:** A minimum of 4 credit hours are required, with a minimum of 2 credit hours in each discipline. Additional workshop coursework may be taken for 0 credit hours.
MUSIC 475 - Opera Workshop **Credits:** 1-18
AND
THTRE 580 - Music Theatre Workshop **Credits:** 0-1

Total Hours Required for Graduation: 120

Applied Music - Vocal Performance (BM)

The Bachelor of Music in Applied Music is a four-year program preparing performers in discipline of their choice. Students will select from voice, instrumental, musical theatre, or composition to serve as their area of study.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: (1 credit hour)

MUSIC 101 - A New Rhythm: Cultivating a Healthy Life in College and Beyond **Credits:** 1

Overlays: [9] credit hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Program

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC 030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Music Fundamentals: 22 credit hours

MUSIC 210 - Music Theory I **Credits:** 3
MUSIC 211 - Piano Class I **Credits:** 1
MUSIC 212 - Piano Class II **Credits:** 1
MUSIC 213 - Piano Class III **Credits:** 1

MUSIC 214 - Piano Class IV **Credits:** 1
MUSIC 230 - Music Theory II **Credits:** 3
MUSIC 231 - Aural Skills I **Credits:** 1
MUSIC 320 - Music Theory III **Credits:** 3
MUSIC 321 - Aural Skills II **Credits:** 1
MUSIC 360 - Music Theory IV **Credits:** 3
MUSIC 361 - Aural Skills III **Credits:** 1

Advanced Music Studies: 12 credit hours

MUSIC 173 - Music as Protest and Propaganda in the United States **Credits:** 3
MUSIC 365 - Conducting **Credits:** 1
MUSIC 466 - Music History I: Ancient Greece to Beethoven **Credits:** 3
MUSIC 467 - Music History II: Beethoven to Present **Credits:** 3
MUSIC 469 - Instrumentation and Arranging **Credits:** 2

Studio Lessons: 19 credit hours

Students must take a total of 8 credit hours of MUSIC 255
MUSIC 255 - Lower-Division Performance **Credits:** 1-4
Students must take a total of 11 credit hours of MUSIC 455
MUSIC 455 - Upper-Division Performance **Credits:** 0-4

Organizational Requirement: 8 credit hours

MUSIC 111 - Concert Choir **Credits:** 0-1
MUSIC 115 - Marching Band **Credits:** 0-1
MUSIC 116 - Concert Band **Credits:** 0-1
MUSIC 117 - Wind Symphony **Credits:** 0-1
MUSIC 118 - Jazz Ensemble Lab A **Credits:** 0-1
MUSIC 121 - Collegiate Chorale **Credits:** 0-1
MUSIC 130 - Symphony Orchestra **Credits:** 0-1
MUSIC 135 - University Tenor/Bass Choir **Credits:** 0-1
MUSIC 140 - University Treble Chorus **Credits:** 0-1
MUSIC 400 - Concert Choir **Credits:** 0-1
MUSIC 401 - Concert Band **Credits:** 0-1
MUSIC 402 - Wind Ensemble **Credits:** 0-1
MUSIC 403 - Collegiate Chorale **Credits:** 0-1
MUSIC 404 - Symphony Orchestra **Credits:** 0-1
MUSIC 406 - Collegiate Jazz Ensemble **Credits:** 0-1
MUSIC 408 - University Tenor/Bass Choir-Upper Division **Credits:** 0-1
MUSIC 409 - University Treble Chorus-Upper Division **Credits:** 0-1
MUSIC 411 - Marching Band **Credits:** 0-1

Recitals: 3 credit hours

MUSIC 501 - Half Recital **Credits:** 1

MUSIC 502 - Full Recital **Credits:** 2

Techniques Courses: 21 credit hours

MUSIC 233 - English Diction **Credits:** 1
MUSIC 241 - Italian Diction **Credits:** 1
MUSIC 242 - French Diction **Credits:** 1
MUSIC 243 - German Diction **Credits:** 1
MUSIC 268 - Vocal Pedagogy **Credits:** 2
MUSIC 464 - Methods and Materials for the Studio **Credits:** 2
MUSIC 475 - Opera Workshop **Credits:** 1-18
MUSIC 706 - Song Literature **Credits:** 3
MUSIC 726 - History of the Opera **Credits:** 3
MUSIC 731 - Music Business 1 **Credits:** 2
Music & Humanities Electives

Total Hours Required for Graduation: 120

Bachelor of Music Education

Music Education - Instrumental (BMED)

The program of study leading to this degree is a nine-semester curriculum designed to prepare music teachers for grades pre K–12. With careful planning and enrollment during summer session(s) all requirements may be completed in four years. Within this curriculum there are two emphases–vocal/choral music, and instrumental music.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

MUSIC 101 - A New Rhythm: Cultivating a Healthy Life in College and Beyond **Credits:** 1

Overlays [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Program

A student must earn a 2.75 GPA in all course work meeting degree program requirements, including all graded transfer and K-State credits. A cummulative GPA must be 2.75 before the Professional semester.

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Music Fundamentals: 22 Credit Hours

MUSIC 210 - Music Theory I **Credits:** 3
MUSIC 211 - Piano Class I **Credits:** 1
MUSIC 212 - Piano Class II **Credits:** 1
MUSIC 213 - Piano Class III **Credits:** 1
MUSIC 214 - Piano Class IV **Credits:** 1
MUSIC 230 - Music Theory II **Credits:** 3
MUSIC 231 - Aural Skills I **Credits:** 1
MUSIC 249 - Introduction to Music of the World **Credits:** 3
MUSIC 320 - Music Theory III **Credits:** 3
MUSIC 321 - Aural Skills II **Credits:** 1
MUSIC 360 - Music Theory IV **Credits:** 3
MUSIC 361 - Aural Skills III **Credits:** 1

Advanced Music Studies: 7 Credit Hours

MUSIC 365 - Conducting **Credits:** 1
MUSIC 466 - Music History I: Ancient Greece to Beethoven **Credits:** 3
MUSIC 467 - Music History II: Beethoven to Present **Credits:** 3

Studio Lessons: 13 Credit Hours

Students will complete a minimum of 8 credits and a maximum of 10 credits of MUSIC 255 and will complete a minimum of 3 and maximum of 5 credits of MUSIC 455

MUSIC 255 - Lower-Division Performance **Credits:** 1-4
MUSIC 455 - Upper-Division Performance **Credits:** 0-4

Organizational Credit: 6 Credit Hours

Students will enroll in a minimum of 6 credit hours of a major performing ensemble. Must be enrolled in one credit of any of the following during each of the first six semesters. Once the requirements are met 0 credits for the remainder of the matricualtion is recommended.

MUSIC 111 - Concert Choir **Credits:** 0-1
MUSIC 115 - Marching Band **Credits:** 0-1
MUSIC 116 - Concert Band **Credits:** 0-1
MUSIC 117 - Wind Symphony **Credits:** 0-1
MUSIC 118 - Jazz Ensemble Lab A **Credits:** 0-1
MUSIC 121 - Collegiate Chorale **Credits:** 0-1
MUSIC 130 - Symphony Orchestra **Credits:** 0-1
MUSIC 135 - University Tenor/Bass Choir **Credits:** 0-1
MUSIC 140 - University Treble Chorus **Credits:** 0-1
MUSIC 400 - Concert Choir **Credits:** 0-1
MUSIC 401 - Concert Band **Credits:** 0-1
MUSIC 402 - Wind Ensemble **Credits:** 0-1
MUSIC 403 - Collegiate Chorale **Credits:** 0-1
MUSIC 404 - Symphony Orchestra **Credits:** 0-1
MUSIC 406 - Collegiate Jazz Ensemble **Credits:** 0-1
MUSIC 408 - University Tenor/Bass Choir-Upper Division **Credits:** 0-1
MUSIC 409 - University Treble Chorus-Upper Division **Credits:** 0-1
MUSIC 411 - Marching Band **Credits:** 0-1

Recital: 1 Credit Hour

MUSIC 501 - Half Recital **Credits:** 1
OR
MUSIC 502 - Full Recital **Credits:** 2

Educational Foundations and Methods: 37 Credit Hours

EDSEC 582 is required for a minimum of 9 credit hours.

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1
EDCI 315 - Educational Psychology **Credits:** 3
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2
EDSEC 582 - Teaching Internship in Music **Credits:** 6-12

EDSEC 582 is required for a minimum of 9 credit hours.

MUSIC 232 - Fundamentals of Teaching Music **Credits:** 2
MUSIC 458 - Music in the Schools, PK-6 **Credits:** 3
MUSIC 459 - Music Programs in Middle School/High School **Credits:** 3
MUSIC 461 - Advanced Studies in Music Education **Credits:** 2

Instrumental Sub-plan: 11 Credit Hours

Instrumental Sub-plan Requirements: 9 Credit Hours

MUSIC 203 - Vocal Techniques I **Credits:** 1
MUSIC 234 - String Techniques and Materials **Credits:** 1
MUSIC 235 - Percussion Techniques and Materials **Credits:** 1
MUSIC 236 - Clarinet & Saxophone Woodwind Techniques and Materials **Credits:** 1
MUSIC 237 - Double Reed and Flute Woodwind Techniques and Materials **Credits:** 1
MUSIC 238 - High Brass Techniques and Materials **Credits:** 1
MUSIC 239 - Low Brass Techniques and Materials **Credits:** 1
MUSIC 457 - Instrumental Conducting **Credits:** 1
MUSIC 460 - Teaching Beginning Instruments **Credits:** 1

Music Education Elective: 2 Credit Hours

Choose one of the following:

MUSIC 266 - Marching Band Techniques for School Music Educators **Credits:** 2
MUSIC 267 - String Orchestra Pedagogy **Credits:** 2
MUSIC 268 - Vocal Pedagogy **Credits:** 2
MUSIC 469 - Instrumentation and Arranging **Credits:** 2

Total Hours Required for Graduation: 132

Music Education - Vocal/Choral (BMED)

The program of study leading to this degree is a nine-semester curriculum designed to prepare music teachers for grades pre K–12. With careful planning and enrollment during summer session(s) all requirements may be completed in four years. Within this curriculum there are two emphases–vocal/choral music, and instrumental music.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional

general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

MUSIC 101 - A New Rhythm: Cultivating a Healthy Life in College and Beyond **Credits:** 1

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Program

A student must earn a 2.75 GPA in all course work meets degree program requirements, including all graded transfer and K-State credits. A cummulative GPA must be 2.75 before the Professional semester.

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Music Fundamentals: 22 Credit Hours

MUSIC 210 - Music Theory I **Credits:** 3
MUSIC 211 - Piano Class I **Credits:** 1
MUSIC 212 - Piano Class II **Credits:** 1
MUSIC 213 - Piano Class III **Credits:** 1
MUSIC 214 - Piano Class IV **Credits:** 1
MUSIC 230 - Music Theory II **Credits:** 3
MUSIC 231 - Aural Skills I **Credits:** 1
MUSIC 249 - Introduction to Music of the World **Credits:** 3
MUSIC 320 - Music Theory III **Credits:** 3
MUSIC 321 - Aural Skills II **Credits:** 1
MUSIC 360 - Music Theory IV **Credits:** 3
MUSIC 361 - Aural Skills III **Credits:** 1

Advanced Music Studies: 7 Credit Hours

MUSIC 365 - Conducting **Credits:** 1
MUSIC 466 - Music History I: Ancient Greece to Beethoven **Credits:** 3
MUSIC 467 - Music History II: Beethoven to Present **Credits:** 3

Studio Lessons: 13 Credit Hours

Students will complete a minimum of 8 credits and a maximum of 10 credits of MUSIC 255 and will complete a minimum of 3 and maximum of 5 credits of MUSIC 455

MUSIC 255 - Lower-Division Performance **Credits:** 1-4
MUSIC 455 - Upper-Division Performance **Credits:** 0-4

Organizational Credit: 6 Credit Hours

Students will enroll in a minimum of 6 credit hours of a major performing ensemble. Must be enrolled in one credit of any of the following during each of the first six semesters. Once the requirements are met 0 credits for the remainder of the matricualtion is recommended.

MUSIC 111 - Concert Choir **Credits:** 0-1
MUSIC 115 - Marching Band **Credits:** 0-1
MUSIC 116 - Concert Band **Credits:** 0-1
MUSIC 117 - Wind Symphony **Credits:** 0-1
MUSIC 118 - Jazz Ensemble Lab A **Credits:** 0-1
MUSIC 121 - Collegiate Chorale **Credits:** 0-1
MUSIC 130 - Symphony Orchestra **Credits:** 0-1
MUSIC 135 - University Tenor/Bass Choir **Credits:** 0-1
MUSIC 140 - University Treble Chorus **Credits:** 0-1
MUSIC 400 - Concert Choir **Credits:** 0-1
MUSIC 401 - Concert Band **Credits:** 0-1
MUSIC 402 - Wind Ensemble **Credits:** 0-1
MUSIC 403 - Collegiate Chorale **Credits:** 0-1
MUSIC 404 - Symphony Orchestra **Credits:** 0-1
MUSIC 406 - Collegiate Jazz Ensemble **Credits:** 0-1
MUSIC 408 - University Tenor/Bass Choir-Upper Division **Credits:** 0-1
MUSIC 409 - University Treble Chorus-Upper Division **Credits:** 0-1
MUSIC 411 - Marching Band **Credits:** 0-1

Recital: 1 Credit Hour

MUSIC 501 - Half Recital **Credits:** 1
OR
MUSIC 502 - Full Recital **Credits:** 2

Educational Foundations and Methods: 37 Credit Hours

EDSEC 582 is required for a minimum of 9 credit hours.

EDCI 110 - Foundations of Education **Credits:** 3

EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1
EDCI 315 - Educational Psychology **Credits:** 3
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1
EDSEC 582 - Teaching Internship in Music **Credits:** 6-12
EDSEC 582 is required for a minimum of 9 credit hours.
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2
MUSIC 232 - Fundamentals of Teaching Music **Credits:** 2
MUSIC 458 - Music in the Schools, PK-6 **Credits:** 3
MUSIC 459 - Music Programs in Middle School/High School **Credits:** 3
MUSIC 461 - Advanced Studies in Music Education **Credits:** 2

Vocal/Choral Sub-plan: 11 Credit Hours

Vocal/Choral Sub-plan Requirements: 5 Credit Hours

MUSIC 234 - String Techniques and Materials **Credits:** 1
MUSIC 235 - Percussion Techniques and Materials **Credits:** 1
MUSIC 241 - Italian Diction **Credits:** 1
MUSIC 456 - Choral Conducting **Credits:** 1
MUSIC 460 - Teaching Beginning Instruments **Credits:** 1

Woodwind Elective: 1 Credit Hour

MUSIC 236 - Clarinet & Saxophone Woodwind Techniques and Materials **Credits:** 1
OR
MUSIC 237 - Double Reed and Flute Woodwind Techniques and Materials **Credits:** 1

Brass Elective: 1 Credit

MUSIC 238 - High Brass Techniques and Materials **Credits:** 1
OR
MUSIC 239 - Low Brass Techniques and Materials **Credits:** 1

Diction Elective: 1 Credit Hour

MUSIC 243 - German Diction **Credits:** 1
OR
MUSIC 242 - French Diction **Credits:** 1
OR
MUSIC 233 - English Diction **Credits:** 1

Vocal Ensemble Elective: 1 Credit Hour

Select one of the following vocal ensembles (1 credit hour required)

MUSIC 280 - Lower-Division Ensemble Performance **Credits:** 1
MUSIC 475 - Opera Workshop **Credits:** 1-18
MUSIC 480 - Upper-Division Ensemble Performance **Credits:** 1
MUSIC 490 - Collegium Musicum **Credits:** 0-1

Music Education Elective: 2 Credit Hours

Select one of the following courses.

MUSIC 266 - Marching Band Techniques for School Music Educators **Credits:** 2
MUSIC 267 - String Orchestra Pedagogy **Credits:** 2
MUSIC 268 - Vocal Pedagogy **Credits:** 2
MUSIC 469 - Instrumentation and Arranging **Credits:** 2

Total Minimum Hours Required for Graduation: 132

Bachelor of Science

Theatre (BS)

The mission of the theatre program is to develop human potential, expand knowledge, and enrich cultural understanding and expression through high quality undergraduate and graduate education. Through scholarship/research, service, and production, the theatre program seeks to train future artists, scholars and teachers of theatre, and to inform the non-major, the university at large, and the surrounding community of the value of theatre to individuals and society.

The program offers both broad training in the various sub-disciplines of Theatre Art (scenic, costume, lighting and sound design, acting, directing, stage management, theatre history and literature, drama therapy and dance), as well as the possibility of specialization within a single area. Students are presented with the opportunity to engage in both a greater theoretical understanding of theatre, and are also given systematic training in the various practical skills of production and performance. This structure puts into place the basis for continued advanced academic training, and/or participation in the professional theatre. KSU Theatre is the only program in Kansas accredited by the National Association of Schools of Theatre.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

MUSIC 101 - A New Rhythm: Cultivating a Healthy Life in College and Beyond **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Music, Theater and Dance, etc**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for MUSIC, THTRE and DANCE**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Theatre Studies: 33 Credit Hours

THTRE 111 - Production Participation **Credits:** 1
THTRE 171 - Fundamentals of Acting **Credits:** 3
THTRE 270 - Introduction to Theatre **Credits:** 3
THTRE 280 - Script Analysis **Credits:** 3
THTRE 211 - Run Crew **Credits:** 0-2
Taken for 1 Credit Hour
THTRE 212 - Wardrobe Crew **Credits:** 1
THTRE 366 - Fundamentals of Theatre Management **Credits:** 3
THTRE 269 - Fundamentals of Technical Production **Credits:** 3
THTRE 369 - Fundamentals of Theatrical Design **Credits:** 3
THTRE 565 - Principles of Directing **Credits:** 3
THTRE 572 - History of Theatre I **Credits:** 3

THTRE 573 - History of Theatre II **Credits:** 3
THTRE 599 - Senior Seminar **Credits:** 3

Professional Development Elective: 2 Credit Hours

Select 2 credit hours from the below

DANCE 510 - CAPSTONE PROJECT **Credits:** 2
THTRE 661 - Professional Development **Credits:** 1

Civilizations/History Requirement: 6 Credits

HIST 101 - Western Civilization I: Ancient Greece to Early Modern Europe **Credits:** 3
HIST 102 - Western Civilization II: Europe in the Modern World **Credits:** 3

Practicum Elective: 1 Credit

Select 1 credit hour from the below:

DANCE 502 - Performance Production **Credits:** 0-1
THTRE 211 - Run Crew **Credits:** 0-2
THTRE 212 - Wardrobe Crew **Credits:** 1
THTRE 566 - Rehearsal Techniques **Credits:** 0-12
THTRE 710 - Practicum in Theatre **Credits:** 0-6

Performing Arts Elective: 12 Credit Hours

Select 12 credit hours from the below:

ENGL 345 - Drama **Credits:** 3
Any additional THTRE course
Any additional DANCE course except DANCE 502
ENGL 350 - Introduction to Shakespeare **Credits:** 3

BS Natural and Quantitative Requirements: 12-15 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course Credits: 3-5

Quantitative course Credits: 3-4

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

BS Arts, Humanities, and Social Sciences Requirements: 3 Credit Hours

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: 7

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Minor

Dance Minor

A program allowing students to explore dance through a series of courses which match their interest areas. No prior dance experience is required.

No more than six transferable credit hours may be used for this minor.

Dance Minor

A program allowing students to explore dance through a series of courses which match their interest areas. No prior dance experience is required.

DANCE 205 - Dance as an Art Form **Credits:** 3

At least 1 course from this list:

DANCE 215 - Improvisational Structures **Credits:** 2-3
DANCE 225 - Rhythmic Notation for Dance **Credits:** 1
DANCE 395 - Dance Composition I **Credits:** 3
DANCE 605 - Movement: Fundamentals, Analysis, and Observation **Credits:** 3
DANCE 505 - Methods and Materials of Teaching Dance **Credits:** 2

At least 2 courses from this list:

DANCE 110 - Breathe, Move, Be **Credits:** 3
DANCE 115 - Yoga for Restoration **Credits:** 3
DANCE 120 - Contemporary Dance I **Credits:** 2-3
DANCE 165 - Ballet I **Credits:** 2-3
DANCE 171 - Jazz Dance I **Credits:** 2-3
DANCE 181 - Tap I **Credits:** 2-3
DANCE 240 - West African Styles of Social Dance and Music **Credits:** 2
DANCE 280 - Musical Theatre Dance **Credits:** 2-3
DANCE 323 - Contemporary Dance II **Credits:** 2
DANCE 324 - Contemporary Dance III **Credits:** 2
DANCE 325 - Ballet II **Credits:** 2
DANCE 326 - Ballet III **Credits:** 2

DANCE 371 - Jazz Dance II **Credits:** 2
DANCE 372 - Jazz Dance III **Credits:** 2
DANCE 381 - Tap II **Credits:** 2
DANCE 382 - Tap III **Credits:** 2

AND

DANCE 502 - Performance Production **Credits:** 0-1 Must be taken in at least 3 semesters, for a minimum of .5 credits per semester. Total credits required to fulfill this component is 1.5

Total Hours Required: 16.5

General Music Studies Minor

Provides opportunities for students to participate in performing ensembles across the campus as well as explore the breadth and depth of music in a variety of contexts. These experiences will provide a general background of music in many areas.

Ensemble Requirement (4 credit hours)

A minimum of 4 credits of any of the following ensembles.

MUSIC 111 - Concert Choir **Credits:** 0-1
MUSIC 112 - University Choir **Credits:** 0-1
MUSIC 113 - University Band **Credits:** 0-1
MUSIC 114 - Cat Band **Credits:** 0-1
MUSIC 115 - Marching Band **Credits:** 0-1
MUSIC 116 - Concert Band **Credits:** 0-1
MUSIC 117 - Wind Symphony **Credits:** 0-1
MUSIC 118 - Jazz Ensemble Lab A **Credits:** 0-1
MUSIC 121 - Collegiate Chorale **Credits:** 0-1
MUSIC 130 - Symphony Orchestra **Credits:** 0-1
MUSIC 135 - University Tenor/Bass Choir **Credits:** 0-1
MUSIC 140 - University Treble Chorus **Credits:** 0-1
MUSIC 400 - Concert Choir **Credits:** 0-1
MUSIC 401 - Concert Band **Credits:** 0-1
MUSIC 402 - Wind Ensemble **Credits:** 0-1
MUSIC 403 - Collegiate Chorale **Credits:** 0-1
MUSIC 404 - Symphony Orchestra **Credits:** 0-1
MUSIC 406 - Collegiate Jazz Ensemble **Credits:** 0-1
MUSIC 408 - University Tenor/Bass Choir-Upper Division **Credits:** 0-1
MUSIC 409 - University Treble Chorus-Upper Division **Credits:** 0-1
MUSIC 411 - Marching Band **Credits:** 0-1
MUSIC 412 - University Band **Credits:** 0-1
MUSIC 416 - Cat Band Upper Division **Credits:** 0-1

Theory Requirement (3 credit hours)

MUSIC 210 - Music Theory I **Credits:** 3

Music Studies Requirement (3 credit hours)

Completers will take either MUSIC 160 or MUSIC 249

MUSIC 160 - Experiencing Live Music **Credits:** 2-3
or
MUSIC 249 - Introduction to Music of the World **Credits:** 3

Music Studies Electives (9 credit hours)

Any nine hours from the following courses:

ANTH 515 - Creativity and Culture: The Anthropology of Art **Credits:** 3
ANTH 516 - Ethnomusicology **Credits:** 3
MUSIC 150 - History of Musical Instruments **Credits:** 2-3
MUSIC 151 - Women in Music **Credits:** 3
MUSIC 152 - Introduction to Film Music **Credits:** 3
MUSIC 153 - History of Jazz **Credits:** 3
MUSIC 156 - Introduction to the Broadway Musical **Credits:** 3
MUSIC 157 - Introduction to American Music **Credits:** 3
MUSIC 160 - Experiencing Live Music **Credits:** 2-3
MUSIC 170 - History of Rock and Roll **Credits:** 3
MUSIC 171 - Inventing the Future: Underground Rock: 1968-1993 **Credits:** 3
MUSIC 172 - History of Country Music **Credits:** 3
MUSIC 173 - Music as Protest and Propaganda in the United States **Credits:** 3
MUSIC 211 - Piano Class I **Credits:** 1
MUSIC 212 - Piano Class II **Credits:** 1
MUSIC 213 - Piano Class III **Credits:** 1
MUSIC 214 - Piano Class IV **Credits:** 1
MUSIC 220 - Topics in Music **Credits:** 1-3
MUSIC 230 - Music Theory II **Credits:** 3
MUSIC 231 - Aural Skills I **Credits:** 1
MUSIC 249 - Introduction to Music of the World **Credits:** 3
MUSIC 250 - Introduction to Music **Credits:** 3
MUSIC 320 - Music Theory III **Credits:** 3
MUSIC 321 - Aural Skills II **Credits:** 1

Total hours required: 19

Jazz Studies Minor

Allow students interested in jazz to pursue private instruction, ensemble participation, combo experiences, and improvisation throughout the School of Music Theatre, and Dance. Students will also explore the history of jazz through coursework.

Jazz Minor Requirements

Acceptance into the Jazz Minor is based on passing an entry-level theory exam and audition.

Private Jazz Instruction (4 credit hours)

Jazz Minor Students will enroll in and take provate jazz instructions for a total of 4 credits.

MUSIC 255 - Lower-Division Performance **Credits:** 1-4

Jazz Combos (4 credit hours)

Jazz Minor students will enroll in and perform with jazz combos for a total of 4 credits.

MUSIC 280 - Lower-Division Ensemble Performance **Credits:** 1
or
MUSIC 480 - Upper-Division Ensemble Performance **Credits:** 1

Jazz Ensemble (2 credit hours)

Jazz Minor Students will enroll in and perform with jazz ensembles for a total of 2 credits.

MUSIC 118 - Jazz Ensemble Lab A **Credits:** 0-1
or
MUSIC 406 - Collegiate Jazz Ensemble **Credits:** 0-1

Jazz Theory and Improvisation (4 credit hours)

Students will take 4 courses in jazz theory and improvisation

MUSIC 696 - Jazz Theory I **Credits:** 1
MUSIC 697 - Jazz Theory II **Credits:** 1
MUSIC 698 - Jazz Improvisation I **Credits:** 1
MUSIC 699 - Jazz Improvisation II **Credits:** 1

Jazz History (3 credit hours)

Jazz Minor Students will take one course in jazz history.

MUSIC 153 - History of Jazz **Credits:** 3

Total hours required: 17

Music Performance Minor

Provide opportunities for students to participate in performing ensembles across the campus, take studio lessons, and explore the processes of musical performance.

Program Requirements (11 credit hours)

Students completing the Music Performance Minor should complete Music Theory 1, four (4) credits of ensemble participation, and four (4) credits of private instruction.

MUSIC 230 - Music Theory II **Credits:** 3
MUSIC 231 - Aural Skills I **Credits:** 1
MUSIC 255 - Lower-Division Performance **Credits:** 1-4
MUSIC 320 - Music Theory III **Credits:** 3
MUSIC 321 - Aural Skills II **Credits:** 1

Theory Requirement (3 credit hours)

Music Minors must complete Music Theory I

MUSIC 210 - Music Theory I **Credits:** 3

Major performing ensemble (4 credit hours)

MUSIC 111 - Concert Choir **Credits:** 0-1
MUSIC 115 - Marching Band **Credits:** 0-1
MUSIC 116 - Concert Band **Credits:** 0-1
MUSIC 117 - Wind Symphony **Credits:** 0-1
MUSIC 118 - Jazz Ensemble Lab A **Credits:** 0-1
MUSIC 121 - Collegiate Chorale **Credits:** 0-1
MUSIC 130 - Symphony Orchestra **Credits:** 0-1
MUSIC 135 - University Tenor/Bass Choir **Credits:** 0-1
MUSIC 140 - University Treble Chorus **Credits:** 0-1
MUSIC 280 - Lower-Division Ensemble Performance **Credits:** 1
MUSIC 400 - Concert Choir **Credits:** 0-1
MUSIC 401 - Concert Band **Credits:** 0-1
MUSIC 402 - Wind Ensemble **Credits:** 0-1
MUSIC 403 - Collegiate Chorale **Credits:** 0-1
MUSIC 404 - Symphony Orchestra **Credits:** 0-1
MUSIC 406 - Collegiate Jazz Ensemble **Credits:** 0-1
MUSIC 408 - University Tenor/Bass Choir-Upper Division **Credits:** 0-1
MUSIC 409 - University Treble Chorus-Upper Division **Credits:** 0-1
MUSIC 411 - Marching Band **Credits:** 0-1
MUSIC 475 - Opera Workshop **Credits:** 1-18
MUSIC 480 - Upper-Division Ensemble Performance **Credits:** 1
MUSIC 490 - Collegium Musicum **Credits:** 0-1

Private Lessons (4 credit hours)

Music minors must complete a minimum of 4 credits of private instruction on their primary instrument.

MUSIC 255 - Lower-Division Performance **Credits:** 1-4

Guided electives (8 credit hours)

Any 8 credits of the courses listed below

MUSIC 160 - Experiencing Live Music **Credits:** 2-3
MUSIC 203 - Vocal Techniques I **Credits:** 1
MUSIC 211 - Piano Class I **Credits:** 1
MUSIC 212 - Piano Class II **Credits:** 1
MUSIC 213 - Piano Class III **Credits:** 1
MUSIC 214 - Piano Class IV **Credits:** 1
MUSIC 230 - Music Theory II **Credits:** 3
MUSIC 231 - Aural Skills I **Credits:** 1
MUSIC 234 - String Techniques and Materials **Credits:** 1
MUSIC 235 - Percussion Techniques and Materials **Credits:** 1
MUSIC 236 - Clarinet & Saxophone Woodwind Techniques and Materials **Credits:** 1
MUSIC 237 - Double Reed and Flute Woodwind Techniques and Materials **Credits:** 1
MUSIC 238 - High Brass Techniques and Materials **Credits:** 1
MUSIC 239 - Low Brass Techniques and Materials **Credits:** 1
MUSIC 280 - Lower-Division Ensemble Performance **Credits:** 1
MUSIC 320 - Music Theory III **Credits:** 3
MUSIC 321 - Aural Skills II **Credits:** 1
MUSIC 360 - Music Theory IV **Credits:** 3
MUSIC 361 - Aural Skills III **Credits:** 1
MUSIC 475 - Opera Workshop **Credits:** 1-18
MUSIC 480 - Upper-Division Ensemble Performance **Credits:** 1
MUSIC 490 - Collegium Musicum **Credits:** 0-1

Total credit hours: 19

Musical Theatre Minor

Allows students to explore performance, acting, and theory behind musical theatre performance.

Musical Theatre Required Courses

Musical Theatre Minor students will complete 4 credits of private instruction (MUSIC 255) and 16 additional credits as specified below.

Required Musical Theatre Core (14 credit hours)

THTRE 211 will be taken for "0" credits.

DANCE 280 - Musical Theatre Dance **Credits:** 2-3
MUSIC 255 - Lower-Division Performance **Credits:** 1-4
THTRE 171 - Fundamentals of Acting **Credits:** 3
THTRE 211 - Run Crew **Credits:** 0-2
THTRE 369 - Fundamentals of Theatrical Design **Credits:** 3
THTRE 580 - Music Theatre Workshop **Credits:** 0-1

Electives (6 credit hours)

Choose from the following:

Choose two credits from:

DANCE 120 - Contemporary Dance I **Credits:** 2-3
DANCE 165 - Ballet I **Credits:** 2-3
DANCE 171 - Jazz Dance I **Credits:** 2-3
DANCE 181 - Tap I **Credits:** 2-3
MUSIC 100 - Introduction to Music Theory **Credits:** 3
MUSIC 210 - Music Theory I **Credits:** 3
MUSIC 230 - Music Theory II **Credits:** 3
MUSIC 231 - Aural Skills I **Credits:** 1
THTRE 220 - Musical Theatre History **Credits:** 3
THTRE 271 - Intermediate Acting **Credits:** 3
THTRE 280 - Script Analysis **Credits:** 3
THTRE 761 - Advanced Acting: Decolonizing the Classics **Credits:** 3

Total hours required: 20

Popular Music Studies Minor

Explores many musical genres and historical periods across various contexts and allows for a broad understanding of music development and its role in society.

Required Courses (15 credit hours)

Select 15 credits from the following courses. At least 3 credits must be from the 400 level or higher.

MUSIC 150 - History of Musical Instruments **Credits:** 2-3
MUSIC 151 - Women in Music **Credits:** 3
MUSIC 152 - Introduction to Film Music **Credits:** 3
MUSIC 153 - History of Jazz **Credits:** 3
MUSIC 154 - Salsa: Afro-Cuban Music of the Past and Present **Credits:** 3
MUSIC 155 - Jazz in Kansas City and the Southwest **Credits:** 2-3
MUSIC 156 - Introduction to the Broadway Musical **Credits:** 3
MUSIC 157 - Introduction to American Music **Credits:** 3
MUSIC 160 - Experiencing Live Music **Credits:** 2-3
MUSIC 170 - History of Rock and Roll **Credits:** 3
MUSIC 171 - Inventing the Future: Underground Rock: 1968-1993 **Credits:** 3
MUSIC 172 - History of Country Music **Credits:** 3
MUSIC 173 - Music as Protest and Propaganda in the United States **Credits:** 3
MUSIC 174 - History of Hip Hop **Credits:** 3
MUSIC 220 - Topics in Music **Credits:** 1-3
MUSIC 248 - Songwriting **Credits:** 3
MUSIC 249 - Introduction to Music of the World **Credits:** 3
MUSIC 431 - Music Business 1 **Credits:** 2
MUSIC 432 - Music Business 2 **Credits:** 2
MUSIC 441 - Pop Music Icons **Credits:** 3
MUSIC 462 - Instrumental Jazz Instruction **Credits:** 1

MUSIC 463 - Vocal Jazz Instruction **Credits:** 1
MUSIC 599 - Special Studies in Music **Credits:** 1-3
MUSIC 731 - Music Business 1 **Credits:** 2
MUSIC 732 - Music Business 2 **Credits:** 2
MUSIC 767 - Topics in American Music **Credits:** 3
MUSIC 799 - Problems in Music **Credits:** 1-18
THTRE 203 - Stage to Screen: Theatre into Film **Credits:** 3
THTRE 220 - Musical Theatre History **Credits:** 3
THTRE 552 - Sound Design **Credits:** 3
THTRE 580 - Music Theatre Workshop **Credits:** 0-1
THTRE 630 - Topics in Theatre **Credits:** 1-4

Total hours required: 15

Theatre Minor

The Theatre Minor focuses on artistic performance and provides multiple areas of interest from Acting and Directing, Design, Technical Production, Stage Management, or Playwriting. Electives allow a student to choose courses to complete the credential in their area of interest.

No more than six transferable credit hours may be used for this minor.

Theatre Minor Requirements: 16 Credit Hours

Theatre Minor Required Courses: 10 Credit Hours

THTRE 171 - Fundamentals of Acting **Credits:** 3
THTRE 211 - Run Crew **Credits:** 0-2
(3 credit hours of THTRE 369 must be taken concurrently)
THTRE 369 - Fundamentals of Theatrical Design **Credits:** 3
(1 credit hour of THTRE 211 must be taken concurrently)
THTRE 572 - History of Theatre I **Credits:** 3
OR
THTRE 573 - History of Theatre II **Credits:** 3

Theatre Electives: 6 Credit Hours

Choose any Theatre course *Excluding* THTRE 211, THTRE 566, and THTRE 710.

Secondary Major

Dance and the Human Experience Secondary Major

The Secondary Major in *Dance and the Human Experience* prioritizes embodied knowledge as an essential means of developing insight, creativity and awareness for collective problem solving rooted in mutual interdependence. A commitment to rigorous physical practice and a thorough foundation in movement analysis, theory, and pedagogy, is coupled with diverse electives in dance and fields enhanced by the study of dance. Culminating capstone courses provide students the opportunity to integrate their learning in dance and their primary major in a research, pedagogical, or choreographic project.

Admission Criteria

Any student admitted to Kansas State University who wishes to declare a Secondary Major in Dance and the Human Experience will be accepted into the program.

Interdisciplinary Intro Course: (3 credit hours)

DANCE 205 - Dance as an Art Form **Credits:** 3

Creative & Pedagogical Foundation: (6 credit hours)

DANCE 215 - Improvisational Structures **Credits:** 2-3
DANCE 225 - Rhythmic Notation for Dance **Credits:** 1
And one of the following courses
DANCE 395 - Dance Composition I **Credits:** 3
DANCE 605 - Movement: Fundamentals, Analysis, and Observation **Credits:** 3
DANCE 505 - Methods and Materials of Teaching Dance **Credits:** 2
Students who choose DANCE 505 for their Core Elective will be required to take an additional credit of DANCE coursework from among any of the DANCE courses, including but not limited to DANCE 502, DANCE 503, DANCE 504, and DANCE 599 to reach the total of 24 credits. **Credits / Units:** 1

Dance Production (1.5 credit hours)

DANCE 502 – 3 semesters. Students must perform in a formal concert for three (3) semesters by enrolling in DANCE 502 for at least .5 credits each semester.

DANCE 502 - Performance Production **Credits:** 0-1

Dance Electives: (6 credit hours)

Six (6) credits, including at least one Level III course completed with a grade of "B" or above, chosen from among the following electives:

DANCE 240 - West African Styles of Social Dance and Music **Credits:** 2
DANCE 280 - Musical Theatre Dance **Credits:** 2-3
DANCE 323 - Contemporary Dance II **Credits:** 2
DANCE 324 - Contemporary Dance III **Credits:** 2
DANCE 325 - Ballet II **Credits:** 2
DANCE 326 - Ballet III **Credits:** 2
DANCE 371 - Jazz Dance II **Credits:** 2
DANCE 372 - Jazz Dance III **Credits:** 2
DANCE 381 - Tap II **Credits:** 2
DANCE 382 - Tap III **Credits:** 2

Interdisciplinary Electives: (6 credit hours)

Choose two courses (6 credits) from this list:

AMETH 450 - Comparative Ethnic Studies **Credits:** 3
ANTH 516 - Ethnomusicology **Credits:** 3
STRAN 550 - Practicing Social Justice **Credits:** 3
COMM 130 - Interpersonal Communication **Credits:** 3
COMM 323 - Nonverbal Communication **Credits:** 3
EDEL 250 - Health and Movement Education in Elementary Classrooms **Credits:** 2
EDEL 270 - Arts for Elementary Schools **Credits:** 3
EDEL 520 - Physical Education/Health Methods for PK-6 Schools **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDCI 702 - Curriculum, Instruction, and Assessment **Credits:** 3
EDSEC 546 - Physical Education/Health Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 360 - Introduction to Physical Education/Health **Credits:** 3
EDSEC 380 - Adaptive Physical Education **Credits:** 2
FNDH 220 - Care and Prevention of Athletic Injuries **Credits:** 3
FNDH 252 - Personal Wellness **Credits:** 3
FNDH 355 - Rehabilitation and Exercise Modification Techniques I **Credits:** 3
GWSS 410 - Feminist Thought **Credits:** 3
GWSS 510 - Research Methods in Gender, Women, and Sexuality Studies **Credits:** 3
HDFS 301 - Interpersonal Skills for Helping Professionals **Credits:** 3
HDFS 375 - Introduction to Research Methods in Human Development and Family Science **Credits:** 3
KIN 335 - Physiology of Exercise **Credits:** 4
KIN 336 - Physiology of Exercise Lab **Credits:** 1
KIN 601 - Cardiorespiratory Physiology **Credits:** 3
KIN 603 - Cardiovascular Physiology **Credits:** 3
KIN 607 - Muscle Physiology **Credits:** 3
KIN 611 - Autonomic Neurophysiology **Credits:** 3
LEAD 350 - Culture and Context in Leadership **Credits:** 3
LEAD 405 - Leadership in Practice **Credits:** 3
LEAD 420 - Theories of Nonprofit Leadership **Credits:** 3
LEAD 499 - Nonprofit Organization Internship **Credits:** 3
MANGT 220 - Principles of Management **Credits:** 3
MANGT 450 - Non-Profit Management **Credits:** 3
MANGT 595 - Strategic Management **Credits:** 3
MKTG 250 - Introduction to Marketing **Credits:** 3
MUSIC 210 - Music Theory I **Credits:** 3
MUSIC 244 - West African Drumming and Percussion **Credits:** 2
MUSIC 458 - Music in the Schools, PK-6 **Credits:** 3
MUSIC 459 - Music Programs in Middle School/High School **Credits:** 3
PSYCH 370 - Introduction to Behavioral Neuroscience **Credits:** 3
PSYCH 460 - Cognitive Psychology **Credits:** 3
PSYCH 475 - Principles of Learning **Credits:** 3
PSYCH 480 - Fundamentals of Perception and Sensation **Credits:** 3
PSYCH 518 - Introduction to Health Psychology **Credits:** 3
PSYCH 630 - Human Neuropsychology **Credits:** 3
SOCWK 570 - Social Work with Groups **Credits:** 3
SOCWK 315 - Human Behavior in the Social Environment I **Credits:** 3
THTRE 269 - Fundamentals of Technical Production **Credits:** 3
THTRE 369 - Fundamentals of Theatrical Design **Credits:** 3
THTRE 560 - Advanced Stage Movement **Credits:** 3

Note: Courses not on the electives list may be approved as part of the student's program of study on a case-by-case basis by the student's advisor and/or the Dance Program Director.

Capstone: (3 credit hours)

DANCE 509 - CAPSTONE SEMINAR **Credits:** 1
DANCE 510 - CAPSTONE PROJECT **Credits:** 2

Total Hours Required: 25.5

Undergraduate Certificate

Dance Performance Undergraduate Certificate

The Dance Performance Certificate provides an opportunity for further specialization and depth in dance studies for students who have completed, or are on track to complete, the secondary major in Dance and the Human Experience. Students must achieve a grade of "B" or higher in their dance technique courses to obtain the certificate.

Technique Courses: (6 credit hours)

Dance Performance Certificate students must take three additional dance technique courses beyond those completed for the Secondary Major in Dance and the Human Experience, from among those listed below, and must achieve a minimum grade of "B" in each.

DANCE 110 - Breathe, Move, Be **Credits:** 3
DANCE 115 - Yoga for Restoration **Credits:** 3
DANCE 120 - Contemporary Dance I **Credits:** 2-3
DANCE 165 - Ballet I **Credits:** 2-3
DANCE 171 - Jazz Dance I **Credits:** 2-3
DANCE 181 - Tap I **Credits:** 2-3
DANCE 240 - West African Styles of Social Dance and Music **Credits:** 2
DANCE 280 - Musical Theatre Dance **Credits:** 2-3
DANCE 323 - Contemporary Dance II **Credits:** 2
DANCE 324 - Contemporary Dance III **Credits:** 2
DANCE 325 - Ballet II **Credits:** 2
DANCE 326 - Ballet III **Credits:** 2
DANCE 371 - Jazz Dance II **Credits:** 2
DANCE 372 - Jazz Dance III **Credits:** 2
DANCE 381 - Tap II **Credits:** 2
DANCE 382 - Tap III **Credits:** 2

Electives (3 credit hours)

Choose one of the following core electives:

DANCE 395 - Dance Composition I **Credits:** 3
DANCE 605 - Movement: Fundamentals, Analysis, and Observation **Credits:** 3

DANCE 505 - Methods and Materials of Teaching Dance **Credits:** 2

* Students who choose Dance 505 for their core elective will need to take any additional credit of any DANCE course to meet the 12 credit minimum (this may be achieved by taking a 3-credit course to fulfill one of the technique requirements, by taking an additional semester of Dance 502, 503, or 504, or through an Indepdendent Study / Dance 599) **Credits / Units:** 1

Performance Ensembles (3 credit hours)

Dance Performance Certificate students must take three semesters of a performance ensemble, beyond those completed for the Secondary Major in Dance and the Human Experience, from among the following courses:

DANCE 502 - Performance Production **Credits:** 0-1
DANCE 503 - K-State Tap Dance Ensemble **Credits:** 0-1
DANCE 504 - Contemporary Dance Ensemble **Credits:** 0-1

Students must enroll in a minimum of 3 credit hours from among Dance 502, Dance 503, and Dance 504 to complete this requirement.

Total credit hours: 12

Historical Performance Practice Undergraduate Certificate

A course of study for K-State students with foundational instruction in historical performance practices (Middle Ages through the 18th Century) with practical training in stylistic differences, ensemble performance, reading early notation, and research.

Required Courses: 2 credit hours

Students will complete a two (2) credit semester project through Special Studies in Music (MUSIC599), such as a recital or research project related to Historical Performance Practice.

MUSIC 599 - Special Studies in Music **Credits:** 1-3

Ensemble Performance: 5 credit hours

Students are expected to take five (5) credits from two or more early-music ensembles, selected from Collegium Musicum, Madrigal & Motet Ensemble, and/or Recorder Ensemble.

MUSIC 119 - Madrigal and Motet Ensemble **Credits:** 0-1
MUSIC 120 - Recorder Ensemble **Credits:** 0-1
MUSIC 490 - Collegium Musicum **Credits:** 0-1

Elective Elements: 5 credit hours

Students may choose any five (5) credits from the following courses

MUSIC 150 - History of Musical Instruments **Credits:** 2-3
MUSIC 220 - Topics in Music **Credits:** 1-3
MUSIC 724 - 18th Century Counterpoint **Credits:** 2
MUSIC 727 - Introduction to Historical Performance Practice **Credits:** 3

Total Hours Required: 12

Music Business Undergraduate Certificate

A supplemental offering for undergraduate students to better prepare them for the music industry, as it is one of the fastest growing in the United States. Students who seek career opportunities beyond performing and teaching careers and in music marketing and management can learn how to monetize their skills while earning a certificate. It will include required courses in music business, options for electives will culminate in a practical project and internship experience.

Required Music Business Courses: (4 credit hours)

MUSIC 431 - Music Business 1 **Credits:** 2
OR
MUSIC 731 - Music Business 1 **Credits:** 2
MUSIC 432 - Music Business 2 **Credits:** 2
OR
MUSIC 732 - Music Business 2 **Credits:** 2

Music History Electives: (3 credit hours)

Choose one course (3 Credit Hours).

MUSIC 150 - History of Musical Instruments **Credits:** 2-3
MUSIC 153 - History of Jazz **Credits:** 3
MUSIC 170 - History of Rock and Roll **Credits:** 3
MUSIC 172 - History of Country Music **Credits:** 3
MUSIC 466 - Music History I: Ancient Greece to Beethoven **Credits:** 3
MUSIC 467 - Music History II: Beethoven to Present **Credits:** 3

Music Business Electives: (5 credit hours)

Choose from these courses to total 5 Credit Hours.

MUSIC 464 - Methods and Materials for the Studio **Credits:** 2
MUSIC 469 - Instrumentation and Arranging **Credits:** 2
MUSIC 599 - Special Studies in Music **Credits:** 1-3
THTRE 712 - Theatre Management **Credits:** 3
MUSIC 733 - Music Marketing and Management Internship **Credits:** 2

Total Hours Required: 12

Sacred Music Undergraduate Certificate

Prepares church musicians for various roles they will hold while serving in places of religious observances which can include performance, accompanying, conducting, singing, and chamber groups.

Required Courses (13 credit hours)

Sacred Music Certificate Completers will complete 13 hours in Sacred Music Preparation

Internship and Performance (5 credit hours)

Certificate Completers will perform in collaborative groups and engage in three (3) semester-long internships preparing them for the sacred music profession.

MUSIC 280 - Lower-Division Ensemble Performance **Credits:** 1
MUSIC 480 - Upper-Division Ensemble Performance **Credits:** 1
MUSIC 599 - Special Studies in Music **Credits:** 1-3

Techniques (3 credit hours)

Certificate Completers will have experiences in conducting, methods, and materials concerning sacred music.

MUSIC 365 - Conducting **Credits:** 1
MUSIC 464 - Methods and Materials for the Studio **Credits:** 2

Vocal Elective (1 credit hour)

Certificate completers will take at least one course in vocal instruction to be selected from the following:

MUSIC 103 - Voice Class I **Credits:** 1
MUSIC 203 - Vocal Techniques I **Credits:** 1
MUSIC 255 - Lower-Division Performance **Credits:** 1-4

Private Instruction (4 credit hours)

Certificate completers must complete a minimum of 4 credits of private instruction.

MUSIC 255 - Lower-Division Performance **Credits:** 1-4
or
MUSIC 455 - Upper-Division Performance **Credits:** 0-4

Total hours required: 13

Other Program Choices

Applied Music - Composition (BM) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	

COMM 106 - Public Speaking I	3	**KSC 020**
MUSIC 101 - A New Rhythm: Cultivating a Healthy Life in College and Beyond	1	
MUSIC 210 - Music Theory I	3	
MUSIC 211 - Piano Class I	1	
MUSIC 255 - Lower-Division Performance	1-4	
Any Large Ensemble - See Department List	1	
Total Credits: 16		
Semester 2		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
MUSIC 212 - Piano Class II	1	
MUSIC 230 - Music Theory II	3	
MUSIC 231 - Aural Skills I	1	
MUSIC 255 - Lower-Division Performance	1-4	
Any Large Ensemble - See Department List	1	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
PHILO 130 - Introduction to Moral Philosophy (Ethical Reasoning Overlay)	3	**KSC 060**
Total Credits: 16		
Second Year		
Semester 1		
MUSIC 213 - Piano Class III	1	
MUSIC 255 - Lower-Division Performance	1-4	
MUSIC 320 - Music Theory III	3	

MUSIC 321 - Aural Skills II	1	
Natural and Physical Sciences Requirement	4-5	**KSC 040**
Any Large Ensemble - See Department List	1	
GWSS 105 - Introduction to Gender, Women, and Sexuality Studies	3	**KSC 050**
US Multicultural Overlay	3	
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 17		
Semester 2		
MUSIC 214 - Piano Class IV	1	
Any Large Ensemble - See Department List	1	
MUSIC 255 - Lower-Division Performance	1-4	
MUSIC 323 - Lower-Division Composition	1-18	
MUSIC 360 - Music Theory IV	3	
MUSIC 361 - Aural Skills III	1	
Social and Behavioral Sciences Requirement	3	**KSC 050**
Global Perspectives Overlay	3	
Total Credits: 15		
Third Year		
Semester 1		
MUSIC 455 - Upper-Division Performance	0-4	
Any Large Ensemble - See Department List	1	
MUSIC 249 - Introduction to Music of the World	3	
MUSIC 323 - Lower-Division Composition	1-18	

MUSIC 365 - Conducting	1	
MUSIC 469 - Instrumentation and Arranging	2	
MUSIC 466 - Music History I: Ancient Greece to Beethoven	3	
MUSIC 734 - Technology of the Electronic Music Studio	2	
Total Credits: 15		
Semester 2		
MUSIC 173 - Music as Protest and Propaganda in the United States	3	
Any Large Ensemble - See Department List	1	
MUSIC 323 - Lower-Division Composition	1-18	
MUSIC 455 - Upper-Division Performance	0-4	
MUSIC 501 - Half Recital	1	
MUSIC 467 - Music History II: Beethoven to Present	3	
MUSIC 714 - Advanced Orchestration	2	
Music 700+ Music History Elective		
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Fourth Year		
Semester 1		
MUSIC 455 - Upper-Division Performance	0-4	
Any Large Ensemble - See Department List	1	
MUSIC 523 - Upper-Division Composition	0-18	
MUSIC 731 - Music Business 1	2	
MUSIC 724 - 18th Century Counterpoint	2	

Music History Elective (see department list)	3		
Music and Humanities Elective	3		
Total Credits: 13			
Semester 2			
MUSIC 455 - Upper-Division Performance	0-4		
Any Large Ensemble - See Department List	1		
MUSIC 523 - Upper-Division Composition	0-18		
MUSIC 502 - Full Recital	2		
MUSIC 725 - Theories of Contemporary Music	2		
MUSIC 732 - Music Business 2	2		
MUSIC 735 - Digital Sound Synthesis	2		
Music and Humanities Elective	2		
Total Credits: 13			
Total Program Hours: 120			

Applied Music - Instrumental Performance (BM) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
COMM 106 - Public Speaking I	3	**KSC 020**	
MUSIC 101 - A New Rhythm: Cultivating a Healthy Life in College and Beyond	1		
MUSIC 210 - Music Theory I	3		

MUSIC 211 - Piano Class I	1	
MUSIC 255 - Lower-Division Performance	1-4	
Any Large Ensemble - See Department List		
Total Credits: 16		
Semester 2		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	
MUSIC 212 - Piano Class II	1	
MUSIC 230 - Music Theory II	3	
MUSIC 231 - Aural Skills I	1	
MUSIC 255 - Lower-Division Performance	1-4	
Any Large Ensemble - See Department List	1	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
PHILO 130 - Introduction to Moral Philosophy	3	**KSC 060**
Ethical Reasoning Overlay		
Total Credits: 16		
Second Year		
Semester 1		
MUSIC 213 - Piano Class III	1	
MUSIC 255 - Lower-Division Performance	1-4	
MUSIC 320 - Music Theory III	3	
MUSIC 321 - Aural Skills II	1	
Any Large Ensemble - See Department List	1	

Natural/Physical Science Course	4-5	**KSC 040**	
Social and Behavioral Requirement		**KSC 050**	
Total Credits: 14			
Semester 2			
GWSS 105 - Introduction to Gender, Women, and Sexuality Studies	3	**KSC 050**	
US Multicultural Overlay			
HIST 112 - World History From 1450	3	**KSC 060**	
Global Perspectives Overlay			
MUSIC 214 - Piano Class IV	1		
MUSIC 255 - Lower-Division Performance	1-4		
MUSIC 360 - Music Theory IV	3		
MUSIC 361 - Aural Skills III	1		
Any Large Ensemble - See Department List	1		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Third Year			
Semester 1			
MUSIC 173 - Music as Protest and Propaganda in the United States	3		
MUSIC 365 - Conducting	1		
MUSIC 402 - Wind Ensemble	0-1		
MUSIC 455 - Upper-Division Performance	0-4		
MUSIC 480 - Upper-Division Ensemble Performance	1		
MUSIC 469 - Instrumentation and Arranging	2		

MUSIC 466 - Music History I: Ancient Greece to Beethoven	3	
Total Credits: 14		
Semester 2		
MUSIC 249 - Introduction to Music of the World	3	
MUSIC 402 - Wind Ensemble	0-1	
MUSIC 455 - Upper-Division Performance	0-4	
MUSIC 480 - Upper-Division Ensemble Performance	1	
MUSIC 501 - Half Recital	1	
MUSIC 467 - Music History II: Beethoven to Present	3	
Music/Humanities Elective	3	
Total Credits: 15		
Fourth Year		
Semester 1		
MUSIC 402 - Wind Ensemble	0-1	
MUSIC 455 - Upper-Division Performance	0-4	
MUSIC 480 - Upper-Division Ensemble Performance	1	
MUSIC 724 - 18th Century Counterpoint	2	
MUSIC 707 - History of Wind Bands	3	
MUSIC 731 - Music Business 1	2	
Free Elective	3	
Total Credits: 15		
Semester 2		

MUSIC 239 - Low Brass Techniques and Materials	1	
MUSIC 402 - Wind Ensemble	0-1	
MUSIC 455 - Upper-Division Performance	0-4	
MUSIC 480 - Upper-Division Ensemble Performance	1	
MUSIC 464 - Methods and Materials for the Studio	2	
MUSIC 502 - Full Recital	2	
MUSIC 725 - Theories of Contemporary Music	2	
MUSIC 714 - Advanced Orchestration	2	
Free Elective	1	
Total Credits: 14		
Total Programs Hours: 120		

Applied Music - Musical Theatre (BM) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
MUSIC 101 - A New Rhythm: Cultivating a Healthy Life in College and Beyond	1	
Orientation Course	3	
MUSIC 210 - Music Theory I	1	**KSC 060**
MUSIC 211 - Piano Class I	1-4	
MUSIC 255 - Lower-Division Performance	1-4	
ENGL 100 - Expository Writing I	3	**KSC 010**
COMM 106 - Public Speaking I	3	**KSC 020**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Total Credits: 16		

Semester 2		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	
GWSS 105 - Introduction to Gender, Women, and Sexuality Studies	3	**KSC 050**
US Multicultural Overlay and counts as Social and Behavioral.		
MUSIC 212 - Piano Class II	1	
MUSIC 230 - Music Theory II	3	
MUSIC 231 - Aural Skills I	1	
MUSIC 255 - Lower-Division Performance	1-4	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Second Year		
Semester 1		
MUSIC 213 - Piano Class III	1	
MUSIC 255 - Lower-Division Performance	1-4	
MUSIC 320 - Music Theory III	3	
MUSIC 321 - Aural Skills II	1	
THTRE 171 - Fundamentals of Acting	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
PHILO 130 - Introduction to Moral Philosophy	3	**KSC 060**
Ethical Reasoning Overlay and counts as Arts & Humanities		
Total Credits: 16		

Semester 2		
MUSIC 214 - Piano Class IV	1	
MUSIC 255 - Lower-Division Performance	1-4	
MUSIC 360 - Music Theory IV	3	
MUSIC 361 - Aural Skills III	1	
HIST 112 - World History From 1450	3	
Global Perspectives Overlay and KSC		
Natural & Physical Science Course	4	**KSC 040**
Social & Behavioral Sciences Course	3	**KSC 050**
Total Credits: 17		
Third Year		
Semester 1		
MUSIC 156 - Introduction to the Broadway Musical	3	
MUSIC 455 - Upper-Division Performance	0-4	
MUSIC 466 - Music History I: Ancient Greece to Beethoven	3	
MUSIC 475 - Opera Workshop	1-18	
DANCE 120 - Contemporary Dance I	2-3	
THTRE 211 - Run Crew	0-2	
THTRE 271 - Intermediate Acting	3	
Total Credits: 15		
Semester 2		
MUSIC 233 - English Diction	1	
MUSIC 241 - Italian Diction	1	

MUSIC 249 - Introduction to Music of the World	3		
MUSIC 455 - Upper-Division Performance	0-4		
MUSIC 467 - Music History II: Beethoven to Present	3		
MUSIC 475 - Opera Workshop	1-18		
MUSIC 501 - Half Recital	1		
THTRE 369 - Fundamentals of Theatrical Design	3		
Total Credits: 14			
Fourth Year			
Semester 1			
MUSIC 268 - Vocal Pedagogy	2		
MUSIC 455 - Upper-Division Performance	0-4		
MUSIC 731 - Music Business 1	2		
THTRE 580 - Music Theatre Workshop	0-1		
THTRE 560 - Advanced Stage Movement	3		
THTRE 211 - Run Crew	0-2		
THTRE 572 - History of Theatre I	3		
Total Credits: 14			
Semester 2			
MUSIC 173 - Music as Protest and Propaganda in the United States	3		
MUSIC 455 - Upper-Division Performance	0-4		
DANCE 280 - Musical Theatre Dance	2-3		
MUSIC 502 - Full Recital	2		
THTRE 211 - Run Crew	0-2		

THTRE 580 - Music Theatre Workshop	0-1		
THTRE 761 - Advanced Acting: Decolonizing the Classics	3		
Total Credits: 13			
Total Program Hours: 120			

Applied Music - Vocal Performance (BM) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
COMM 106 - Public Speaking I	3	**KSC 020**	
Any Large Ensemble (See Department List)	1		
MUSIC 101 - A New Rhythm: Cultivating a Healthy Life in College and Beyond	1		
MUSIC 210 - Music Theory I	3	**KSC 060**	
MUSIC 211 - Piano Class I	1		
MUSIC 255 - Lower-Division Performance	1-4		
Total Credits: 17			
Semester 2			
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**	
ENGL 210 - Honors English	3	**KSC 010**	
Any Large Ensemble (See Department List)	1		
MUSIC 212 - Piano Class II	1		
MUSIC 230 - Music Theory II	3		

MUSIC 231 - Aural Skills I	1	
MUSIC 255 - Lower-Division Performance	1-4	
PHILO 130 -Introduction to Moral Philosophy (Ethical Reasoning Overlay)	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 17		
Second Year		
Semester 1		
MUSIC 213 - Piano Class III	1	
Any Large Ensemble - See Department List	1	
MUSIC 233 - English Diction	1	
MUSIC 255 - Lower-Division Performance	1-4	
MUSIC 320 - Music Theory III	3	
MUSIC 321 - Aural Skills II	1	
Natural and Physical Sciences Requirement	4-5	**KSC 040**
POLSC 145 - World Politics (Global Perspective Overlay)	3	**KSC 050**
Total Credits: 16		
Semester 2		
MUSIC 214 - Piano Class IV	1	
Any Large Ensemble (See Department List)	1	
MUSIC 255 -Lower-Division Performance	1-4	
MUSIC 360 - Music Theory IV	3	
MUSIC 361 - Aural Skills III	1	
GWSS 105 - Introduction to Gender, Women, and Sexuality Studies (US Multicultural Overlay)	3	**KSC 050**

Arts and Humanities Requirement (Other than MUSIC)	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 17		
Third Year		
Semester 1		
MUSIC 173 - Music as Protest and Propaganda in the United States	3	
Any Large Ensemble - See Department List	1	
MUSIC 241 - Italian Diction	1	
MUSIC 365 - Conducting	1	
MUSIC 469 - Instrumentation and Arranging	2	
MUSIC 466 - Music History I: Ancient Greece to Beethoven	3	
MUSIC 475 - Opera Workshop	1-18	
MUSIC 455 - Upper-Division Performance	0-4	
Total Credits: 15		
Semester 2		
MUSIC 268 - Vocal Pedagogy	2	
Any Large Ensemble (See Department List)	1	
MUSIC 249 - Introduction to Music of the World	3	
MUSIC 455 - Upper-Division Performance	0-4	
MUSIC 501 - Half Recital	1	
MUSIC 467 - Music History II: Beethoven to Present	3	
MUSIC 475 - Opera Workshop	1-18	
Total Credits: 14		

Fourth Year		
Semester 1		
MUSIC 243 - German Diction	1	
Any Large Ensemble (See Department List)	1	
MUSIC 455 - Upper-Division Performance	0-4	
MUSIC 475 - Opera Workshop	1-18	
MUSIC 726 - History of the Opera	3	
MUSIC 731 - Music Business 1	2	
Music/Humanities Elective	1	
Total Credits: 12		
Semester 2		
MUSIC 242 - French Diction	1	
Any Large Ensemble (See Department List)	1	
MUSIC 455 - Upper-Division Performance	0-4	
MUSIC 464 - Methods and Materials for the Studio	2	
MUSIC 475 - Opera Workshop	1-18	
MUSIC 502 - Full Recital	2	
MUSIC 706 - Song Literature	3	
Total Credits: 12		
Total Program Hours: 120		

Music (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
MUSIC 101 - A New Rhythm: Cultivating a Healthy Life in College and Beyond	1	
COMM 106 -Public Speaking I	3	**KSC 020**
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
MUSIC 210 - Music Theory I	3	**KSC 060**
MUSIC 111 - Concert Choir	0-1	
MUSIC 211 - Piano Class I	1	
MUSIC 255 - Lower-Division Performance	1-4	
Total Credits: 16		
Semester 2		
MUSIC 111 - Concert Choir	0-1	
MUSIC 212 - Piano Class II	1	
MUSIC 230 - Music Theory II	3	
MUSIC 231 - Aural Skills I	1	
MUSIC 255 - Lower-Division Performance	1-4	
AMETH 160 - Introduction to American Ethnic Studies	3	
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
HIST 111 - World History to 1450	3	**KSC 060**
Total Credits: 16		
Second Year		

Semester 1		
BIOL 101 - Concepts of Biology	4	**KSC 040**
First Foreign Language - Level I	3-4	
MUSIC 111 - Concert Choir	1	
MUSIC 213 - Piano Class III	1	
MUSIC 255 - Lower-Division Performance	1-4	
MUSIC 320 - Music Theory III	3	
MUSIC 321 - Aural Skills II	1	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 18		
Semester 2		
MUSIC 111 - Concert Choir	0-1	
MUSIC 214 - Piano Class IV	1	
MUSIC 255 - Lower-Division Performance	1-4	
MUSIC 360 - Music Theory IV	3	
MUSIC 361 - Aural Skills III	1	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
First Foreign Language - Level II	4	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 17		
Third Year		
Semester 1		
MUSIC 100 - Introduction to Music Theory	3	

MUSIC 466 - Music History I: Ancient Greece to Beethoven	3	
MUSIC 249 - Introduction to Music of the World	3	
Humanities Restrictive Elective - Ethical Reasoning Overlay	3	
Non-Quantitative Social Science Restrictive Elective	3	
Total Credits: 13		
Semester 2		
MUSIC 400 - Concert Choir	0-1	
MUSIC 467 - Music History II: Beethoven to Present	3	
MUSIC Elective	2	
MUSIC Elective	2	
First Foreign Language - Level III or Second Foreign Language - Level I	3-4	
Outside Concentration	3	
Total Credits: 14		
Fourth Year		
Semester 1		
MUSIC 400 - Concert Choir	0-1	
Music History Elective	3	
Outside Concentration	3	
First Foreign Language - Level IV or Second Foreign Language - Level II	3-4	
Natural/Quantitative/Quantitative Social Sciences Restrictive Elective	3	
Total Credits: 13		
Semester 2		

MUSIC 400 - Concert Choir	0-1	
MUSIC Elective	3	
Natural, Quantitative, or Social Science course w/ MATH or STAT prereq	3	
Outside Concentration	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 13		
Total Program Hours: 120		

Music Education - Instrumental (BMED) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
MUSIC 101 - A New Rhythm: Cultivating a Healthy Life in College and Beyond	1	
MUSIC 117 - Wind Symphony	0-1	
MUSIC 210 -Music Theory I	3	**KSC 060**
MUSIC 211 - Piano Class I	1	
MUSIC 255 - Lower-Division Performance	1-4	
Total Credits: 17		
Semester 2		
EDCI 200 - Teaching as a Career	1	
EDCI 230 - Early Field Experience	1	

ENGL 200 - Expository Writing II	3	**KSC 010**
MUSIC 117 - Wind Symphony	0-1	
MUSIC 212 - Piano Class II	1	
MUSIC 230 - Music Theory II	3	
MUSIC 231 - Aural Skills I	1	
MUSIC 249 - Introduction to Music of the World	3	
MUSIC 255 - Lower-Division Performance	1-4	
Total Credits: 16		
Second Year		
Semester 1		
AMETH 160 - Introduction to American Ethnic Studies	3	**KSC 050**
PSYCH 110 - General Psychology	3	**KSC 050**
MUSIC 117 - Wind Symphony	0-1	
MUSIC 213 - Piano Class III	1	
MUSIC 232 - Fundamentals of Teaching Music	2	
MUSIC 255 - Lower-Division Performance	1-4	
MUSIC 320 - Music Theory III	3	
MUSIC 321 - Aural Skills II	1	
Total Credits: 16		
Semester 2		
EDCI 110 - Foundations of Education	3	
MUSIC 117 - Wind Symphony	0-1	
MUSIC 203 - Vocal Techniques I	1	

MUSIC 214 - Piano Class IV	1	
MUSIC 255 - Lower-Division Performance	1-4	
MUSIC 360 - Music Theory IV	3	
MUSIC 361 - Aural Skills III	1	
MUSIC 235 - Percussion Techniques and Materials	1	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 17		
Semester 3		
EDCI 315 -Educational Psychology	3	
EDCI 318 - Educational Technology for Teaching and Learning	1	
EDCI 320 -Core Teaching Skills and Lab	3	
EDSP 323 - Exceptional Students in the Secondary School	2	
Total Credits: 9		
Third Year		
Semester 1		
BIOL 101 - Concepts of Biology	4	**KSC 040**
MUSIC 234 - String Techniques and Materials	1	
MUSIC 236 - Clarinet & Saxophone Woodwind Techniques and Materials	1	
MUSIC 239 - Low Brass Techniques and Materials	1	
MUSIC 365 - Conducting	1	
MUSIC 402 - Wind Ensemble	0-1	
MUSIC 455 - Upper-Division Performance	0-4	
MUSIC 466 - Music History I: Ancient Greece to Beethoven	3	

PHILO 130 -Introduction to Moral Philosophy	3	**KSC 060**
Total Credits: 16		
Semester 2		
MUSIC 237 - Double Reed and Flute Woodwind Techniques and Materials	1	
MUSIC 238 - High Brass Techniques and Materials	1	
MUSIC 266 - Marching Band Techniques for School Music Educators	2	
MUSIC 402 - Wind Ensemble	0-1	
MUSIC 455 - Upper-Division Performance	0-4	
MUSIC 457 - Instrumental Conducting	1	
MUSIC 458 - Music in the Schools, PK-6	3	
MUSIC 460 - Teaching Beginning Instruments	1	
MUSIC 467 - Music History II: Beethoven to Present	3	
Total Credits: 15		
Fourth Year		
Semester 1		
EDSEC 455 -Teaching in a Multicultural Society	1	
EDSEC 477 - Content Area Literacies and Diverse Learners	2	
EDSEC 525 - Interpersonal Relations in the Schools	1	
MUSIC 455 - Upper-Division Performance	0-4	
MUSIC 459 - Music Programs in Middle School/High School	3	
MUSIC 461 - Advanced Studies in Music Education	2	
MUSIC 501 - Half Recital	1	
Free Elective {Institutionally Designated Area}	3	**KSC 070**

Total Credits: 14		
Semester 2		
EDSEC 582 - Teaching Internship in Music	6-12	
Total Credits: 12		
Total Program Hours: 132		

Music Education - Vocal/Choral (BMED) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
MUSIC 101 -A New Rhythm: Cultivating a Healthy Life in College and Beyond	1	
MUSIC 121 - Collegiate Chorale	0-1	
MUSIC 210 - Music Theory I	3	**KSC 060**
MUSIC 211 - Piano Class I	1	
MUSIC 255 -Lower-Division Performance	1-4	
MUSIC 241 - Italian Diction	1	
Total Credits: 14		
Semester 2		
EDCI 200 - Teaching as a Career	1	
EDCI 230 - Early Field Experience	1	
ENGL 200 - Expository Writing II	3	**KSC 010**

MUSIC 121 - Collegiate Chorale	0-1	
MUSIC 212 - Piano Class II	1	
MUSIC 230 - Music Theory II	3	
MUSIC 231 - Aural Skills I	1	
MUSIC 249 - Introduction to Music of the World	3	
MUSIC 255 - Lower-Division Performance	1-4	
Total Credits: 14		
Second Year		
Semester 1		
ART 106 - Art Appreciation	3	
COMM 106 - Public Speaking I	3	**KSC 020**
MUSIC 121 - Collegiate Chorale	0-1	
MUSIC 255 - Lower-Division Performance	1-4	
MUSIC 213 - Piano Class III	1	
MUSIC 243 - German Diction	1	
MUSIC 320 - Music Theory III	3	
MUSIC 321 - Aural Skills II	1	
MUSIC 475 - Opera Workshop	1-18	
Total Credits: 16		
Semester 2		
EDCI 110 - Foundations of Education	3	
MUSIC 121 - Collegiate Chorale	0-1	
MUSIC 214 - Piano Class IV	1	

MUSIC 232 - Fundamentals of Teaching Music	2	
MUSIC 235 - Percussion Techniques and Materials	1	
MUSIC 255 - Lower-Division Performance	1-4	
MUSIC 360 - Music Theory IV	3	
MUSIC 361 - Aural Skills III	1	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 17		
Semester 3		
EDCI 315 - Educational Psychology	3	
EDCI 318 - Educational Technology for Teaching and Learning	1	
EDCI 320 - Core Teaching Skills and Lab	3	
EDSP 323 - Exceptional Students in the Secondary School	2	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 12		
Third Year		
Semester 1		
BIOL 101 - Concepts of Biology	4	**KSC 040**
MUSIC 234 - String Techniques and Materials	1	
MUSIC 239 - Low Brass Techniques and Materials	1	
MUSIC 365 - Conducting	1	
MUSIC 402 - Wind Ensemble	0-1	
MUSIC 455 - Upper-Division Performance	0-4	
MUSIC 466 - Music History I: Ancient Greece to Beethoven	3	

GWSS 105 - Introduction to Gender, Women, and Sexuality Studies	3	**KSC 050**
Total Credits: 15		
Semester 2		
MUSIC 400 - Concert Choir	0-1	
MUSIC 455 - Upper-Division Performance	0-4	
MUSIC 458 - Music in the Schools, PK-6	3	
MUSIC 460 - Teaching Beginning Instruments	1	
ECON 110 - Principles of Macroeconomics	3	**KSC 050**
MUSIC 237 - Double Reed and Flute Woodwind Techniques and Materials	1	
MUSIC 456 - Choral Conducting	1	
MUSIC 467 - Music History II: Beethoven to Present	3	
Total Credits: 15		
Fourth Year		
Semester 1		
EDSEC 455 - Teaching in a Multicultural Society	1	
EDSEC 477 - Content Area Literacies and Diverse Learners	2	
EDSEC 525 - Interpersonal Relations in the Schools	1	
MUSIC 455 - Upper-Division Performance	0-4	
MUSIC 459 - Music Programs in Middle School/High School	3	
MUSIC 461 - Advanced Studies in Music Education	2	
MUSIC 268 - Vocal Pedagogy	2	
MUSIC 501 - Half Recital	1	
PHILO 130 - Introduction to Moral Philosophy	3	**KSC 060**

Total Credits: 17			
Semester 2			
EDSEC 582 - Teaching Internship in Music	6-12		
Total Credits: 12			
Total Program Hours: 132			

Theatre (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
MUSIC 101 - A New Rhythm: Cultivating a Healthy Life in College and Beyond (Orientation Required Course)	1	
THTRE 171 - Fundamentals of Acting	3	**KSC 060**
ENGL 100 - Expository Writing I	3	**KSC 010**
COMM 106 - Public Speaking I	3	**KSC 020**
Arts & Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
THTRE 111 - Production Participation	1	
THTRE 270 - Introduction to Theatre	3	
THTRE 212 - Wardrobe Crew	1	
THTRE 269 - Fundamentals of Technical Production	3	

ENGL 200 - Expository Writing II	3	**KSC 010**
Total Credits: 11		
Second Year		
Semester 1		
THTRE 280 - Script Analysis	3	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Performing Arts Elective	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Natural & Physical Sciences Requirement	4	**KSC 040**
Total Credits: 16		
Semester 2		
THTRE 211 - Run Crew	0-2	
THTRE 366 - Fundamentals of Theatre Management	3	
THTRE 369 - Fundamentals of Theatrical Design	3	
Practicum Elective	1	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
First course in any Modern Language	4	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 18		
Third Year		
Semester 1		
HIST 101 - Western Civilization I: Ancient Greece to Early Modern Europe	3	

THTRE 565 - Principles of Directing	3	
Outside Concentration / Ethics Overlay	3	
USMCO / Non-Quantitative Social Science	3	
Second course in same Modern Language	4	
Total Credits: 16		
Semester 2		
HIST 102 - Western Civilization II: Europe in the Modern World	3	
THTRE 572 - History of Theatre I	3	
Performing Arts Electives	3	
Outside Concentration	3	
Professional Development Elective	2	
Third course in same Modern Language	3	
Total Credits: 17		
Fourth Year		
Semester 1		
THTRE 599 - Senior Seminar	3	
Outside Concentration	3	
Any Natural Science or Quantitative course	3	
Fourth course in same Modern Language	3	
Total Credits: 12		
Semester 2		
THTRE 573 - History of Theatre II	3	

Performing Arts Electives	3	
Performing Arts Electives	3	
Free Elective	2	
Any Natural Science or Quantitative course w/ MATH or STAT pre-req	3	
Total Credits: 14		
Total Program Hours: 120		

Theatre (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
THTRE 171 - Fundamentals of Acting	3	**KSC 060**
COMM 106 - Public Speaking I	3	**KSC 020**
MUSIC 101 - A New Rhythm: Cultivating a Healthy Life in College and Beyond	1	
ENGL 100 - Expository Writing I	3	**KSC 010**
Arts & Humanities Requirement	3	**KSC 060**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Total Credits: 16		
Semester 2		
THTRE 212 - Wardrobe Crew	1	
THTRE 270 - Introduction to Theatre	3	
THTRE 269 - Fundamentals of Technical Production	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
Free Elective {Institutionally Designated Area}	3	**KSC 070**

THTRE 111 - Production Participation	1		
Total Credits: 14			
Second Year			
Semester 1			
THTRE 280 - Script Analysis	3		
Performing Arts Elective	3		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Natural & Physical Sciences Requirement	4	**KSC 040**	
Total Credits: 13			
Semester 2			
THTRE 211 - Run Crew	0-2		
THTRE 366 - Fundamentals of Theatre Management	3		
THTRE 369 - Fundamentals of Theatrical Design	3		
Practicum Elective	1		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Arts & Humanities Requirement	3		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 17			
Third Year			
Semester 1			
HIST 101 - Western Civilization I: Ancient Greece to Early Modern Europe	3		
THTRE 565 - Principles of Directing	3		

Ethical Reasoning Overlay / Free Elective	3		
USMCO / Non-Quantitative Social Science	3		
Any Natural Science course	3		
Total Credits: 15			
Semester 2			
HIST 102 - Western Civilization II: Europe in the Modern World	3		
THTRE 572 - History of Theatre I	3		
Any Quantitative course	3		
Performing Arts Electives	3		
Outside Concentration	3		
Professional Development Elective	2		
Total Credits: 17			
Fourth Year			
Semester 1			
THTRE 599 - Senior Seminar	3		
Outside Concentration	3		
Global Perspectives Overlay / Free Elective	3		
Any Natural Science or Quantitative course w/ MATH or STAT pre-req	3		
Performing Arts Electives	3		
Total Credits: 15			
Semester 2			
THTRE 573 - History of Theatre II	3		

Performing Arts Electives	3		
Any Natural, Quantitative, or Social Science course w/ MATH or STAT prereq	3		
Free Elective	1		
Outside Concentration	3		
Total Credits: 13			
Total Program Hours: 120			

Philosophy

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Philosophy is the study of the intellectual foundations of virtually every area of human thought and endeavor. Over the centuries philosophers have examined, for example, the nature and justification of moral values, religious and scientific explanations of the world, the rationality of social institutions, and the nature of reasoning and argument.

The program in philosophy gives students an understanding of traditional philosophical subjects such as these. It also helps students develop critical habits of thinking and skill in understanding complex issues. Consequently, philosophy is an appropriate subject around which to organize a general education for any purpose. It is especially useful for those considering careers oriented towards policy where values and science intersect (for example law, politics, public policy and ministry). Philosophy also provides an extraordinarily effective background for those who intend to pursue postgraduate professional studies, as for example in law, business and medicine.

The Department of Philosophy offers a variety of options within the major program to provide flexibility, and also offers a minor and a certificate in socially responsible information science.

There are seven degree options for the major:

- standard philosophy
- philosophy/pre-law
- philosophy/pre-business
- philosophy/pre-ministry
- philosophy/interdisciplinary
- philosophy/pre-graduate school
- philosophy/pre-med

Bachelor of Arts

Philosophy - Pre-Business (BA)

The program in philosophy gives students an understanding of traditional philosophical subjects such as the nature and justification of moral values, religious and scientific explanations of the world, the rationality of social institutions, and the nature of reasoning and argument.

Pre-Business Option: The pre-business option is for students who plan to do graduate work leading to a master's in business administration. This program has been developed in accordance with the results of surveys in professional business journals that rate this type of program as an excellent preparation for careers in business leadership.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except Philosophy OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for PHILO) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Philosophy Common Requirements: 15 Credit Hours

PHILO 305 - Introduction to Decision Theory **Credits:** 3
PHILO 320 - Symbolic Logic I **Credits:** 3
PHILO 330 - Moral Philosophy **Credits:** 3
PHILO 335 - Introduction to Social and Political Philosophy **Credits:** 3
PHILO 346 - Grasping Reality: The Art of Analysis **Credits:** 3

Philosophy Pre-Business Option Requirements: 3 Credit Hours

PHILO 390 - Business Ethics **Credits:** 3

Philosophy Elective Requirements: 18 Credit Hours

NOTE: If a student is double-majoring in philosophy and any other major, up to 12 credits from the other major may be substituted for philosophy electives. In addtion, one philosophy elective must be replaced with PHILO 680 , Independent Study, wherein the student focuses on topics common to the two majors.

PHILO 100+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

BA Arts, Humanities, and Social Sciences Requirement: 9 Credit Hours

3 credit hours in each of the following, with at least 6 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 14 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 14 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Philosophy - Pre-Law (BA)

The program in philosophy gives students an understanding of traditional philosophical subjects such as the nature and justification of moral values, religious and scientific explanations of the world, the rationality of social institutions, and the nature of reasoning and argument.

Pre-Law Option:

While no one major is given preference by law school admission boards, law schools recognize the value of philosophy for refining skills in expression, comprehension, and critical thinking. According to the *Pre-Law Handbook,* "the free and spirited consideration of philosophical questions is almost the model for legal training."

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except Philosophy OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for PHILO) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Philosophy (Philo) Common Requirements: 15 Credit Hours

PHILO 305 - Introduction to Decision Theory **Credits:** 3
PHILO 320 - Symbolic Logic I **Credits:** 3
PHILO 330 - Moral Philosophy **Credits:** 3
PHILO 335 - Introduction to Social and Political Philosophy **Credits:** 3
PHILO 346 - Grasping Reality: The Art of Analysis **Credits:** 3

Philosophy Pre-Law Option Requirments: 3 Credit Hours

PHILO 535 - Philosophy of Law **Credits:** 3

Philosophy (Philo) Elective Requirements: 18 Credit Hours

NOTE: If a student is double-majoring in philosophy and any other major, up to 12 credits from the other major may be substituted for philosophy electives. In addtion, one philosophy elective must be replaced with PHILO 680 , Independent Study, wherein the student focuses on topics common to the two majors.

PHILO 100+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

BA Arts, Humanities, and Social Sciences Requirement: 9 Credit Hours

3 credit hours in each of the following, with at least 6 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 14 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 14 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Philosophy - Pre-Medicine (BA)

The program in philosophy gives students an understanding of traditional philosophical subjects such as the nature and justification of moral values, religious and scientific explanations of the world, the rationality of social institutions, and the nature of reasoning and argument.

Pre-Medicine Option: While no one major is given preference by medical schools and related post-graduate programs, their admission committees recognize philosophy as a valuable primary or secondary major. In fact, surveys indicate that nationally, philosophy graduates have some of the highest acceptance rates at medical schools. Students in this program will be advised to supplement their education with an important science component.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except Philosophy**,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for PHILO) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Philosophy (Philo) Common Requirements: 15 Credit Hours

PHILO 305 - Introduction to Decision Theory **Credits:** 3
PHILO 320 - Symbolic Logic I **Credits:** 3
PHILO 330 - Moral Philosophy **Credits:** 3

PHILO 335 - Introduction to Social and Political Philosophy **Credits:** 3
PHILO 346 - Grasping Reality: The Art of Analysis **Credits:** 3

Philosophy Pre-Medicine Option Requirements: 3 Credit Hours

PHILO 365 - Medical Ethics **Credits:** 3

Philosophy (Philo) Elective Requirements: 18 Credit Hours

NOTE: If a student is double-majoring in philosophy and any other major, up to 12 credits from the other major may be substituted for philosophy electives. In addtion, one philosophy elective must be replaced with PHILO 680, Independent Study, wherein the student focuses on topics common to the two majors.

PHILO 100+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

BA Arts, Humanities, and Social Sciences Requirement: 9 Credit Hours

3 credit hours in each of the following, with at least 6 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 14 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 14 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Philosophy - Pre-Ministry (BA)

The program in philosophy gives students an understanding of traditional philosophical subjects such as the nature and justification of moral values, religious and scientific explanations of the world, the rationality of social institutions, and the nature of reasoning and argument.

Pre-Ministry Option: This is a nonsectarian program designed for students who are interested in the religious ministry as a profession. Students will be advised on other courses outside philosophy recommended by most American schools of theology.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except Philosophy**,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for PHILO) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Philosophy (Philo) Common Requirements: 15 Credit Hours

PHILO 305 - Introduction to Decision Theory **Credits:** 3
PHILO 320 - Symbolic Logic I **Credits:** 3
PHILO 330 - Moral Philosophy **Credits:** 3
PHILO 335 - Introduction to Social and Political Philosophy **Credits:** 3
PHILO 346 - Grasping Reality: The Art of Analysis **Credits:** 3

Philosophy Pre-Ministry Option Requirements: 3 Credit Hours

PHILO 615 - Philosophy of Religion **Credits:** 3

Philosophy (Philo) Elective Requirements: 18 Credit Hours

NOTE: If a student is double-majoring in philosophy and any other major, up to 12 credits from the other major may be substituted for philosophy electives. In addtion, one philosophy elective must be replaced with PHILO 680, Independent Study, wherein the student focuses on topics common to the two majors.

PHILO 100+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

BA Arts, Humanities, and Social Sciences Requirement: 9 Credit Hours

3 credit hours in each of the following, with at least 6 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 14 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 14 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Philosophy - Standard (BA)

The program in philosophy gives students an understanding of traditional philosophical subjects such as the nature and justification of moral values, religious and scientific explanations of the world, the rationality of social institutions, and the nature of reasoning and argument.

Standard Option: This option is for students who are interested in a traditional liberal arts course of study.

Standard Double/Dual Major Option: This option is for students who wish to combine a major in philosophy with a major in another discipline (double or dual major). Each student completing a degree under this option must have a faculty advisor in the Department of Philosophy who supervises the student's program.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except Philosophy**,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for PHILO) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Philosophy (Philo) Common Requirements: 15 Credit Hours

PHILO 305 - Introduction to Decision Theory **Credits:** 3
PHILO 320 - Symbolic Logic I **Credits:** 3
PHILO 330 - Moral Philosophy **Credits:** 3
PHILO 335 - Introduction to Social and Political Philosophy **Credits:** 3
PHILO 346 - Grasping Reality: The Art of Analysis **Credits:** 3

Philosophy (Philo) Elective Requirements: 21 Credit Hours

NOTE: If a student is double-majoring in philosophy and any other major, up to 12 credits from the other major may be substituted for philosophy electives. In addtion, one philosophy elective must be replaced with PHILO 680 , Independent Study, wherein the student focuses on topics common to the two majors.

PHILO 100+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

BA Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

Any course or combination of courses in Fine Arts Credits: 3

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq Credits: 3

BA Natural and Quantitative Restricted Electives: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 14 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 14 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Bachelor of Science

Philosophy - Pre-Business (BS)

The program in philosophy gives students an understanding of traditional philosophical subjects such as the nature and justification of moral values, religious and scientific explanations of the world, the rationality of social institutions, and the nature of reasoning and argument.

Pre-Business Option: The pre-business option is for students who plan to do graduate work leading to a master's in business administration. This program has been developed in accordance with the results of surveys in professional business journals that rate this type of program as an excellent preparation for careers in business leadership.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except Philosophy, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for PHILO) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Philosophy (Philo) Common Requirements: 15 Credit Hours

PHILO 305 - Introduction to Decision Theory **Credits:** 3
PHILO 320 - Symbolic Logic I **Credits:** 3
PHILO 330 - Moral Philosophy **Credits:** 3
PHILO 335 - Introduction to Social and Political Philosophy **Credits:** 3
PHILO 346 - Grasping Reality: The Art of Analysis **Credits:** 3

Philosophy Pre-Business Option Requirements: 3 Credit Hours

PHILO 390 - Business Ethics **Credits:** 3

Philosophy (Philo) Elective Requirements: 18 Credit Hours

Students take one course (3 credits) at the 100 level or above, three courses (9 credits) at the 300 level or above, and three courses (9 credits) at the 500 level or above.

PHILO 100+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

NOTE: If a student is double-majoring in philosophy and any other major, up to 12 credit from the other major may be substituted for philosophy electives. In addtion, one philosophy elective must be replaced with PHILO 680 , Independent Study, wherein the student focuses on topics common to the two majors.

BS Natural and Quantitative Restricted: 12-15 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course Credits: 3-5

Quantitative course Credits: 3-4

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

BS Arts, Humanities, and Social Sciences Restricted Electives: 3 Credit Hours

3 credit hours in each of the following, at any level:

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: 25

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Philosophy - Pre-Law (BS)

The program in philosophy gives students an understanding of traditional philosophical subjects such as the nature and justification of moral values, religious and scientific explanations of the world, the rationality of social institutions, and the nature of reasoning and argument.

Pre-Law Option: While no one major is given preference by law school admission boards, law schools recognize the value of philosophy for refining skills in expression, comprehension, and critical thinking. According to the *Pre-Law Handbook,* "the free and spirited consideration of philosophical questions is almost the model for legal training."

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except Philosophy, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for PHILO) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Philosophy (Philo) Common Requirements: 15 Credit Hours

PHILO 305 - Introduction to Decision Theory **Credits:** 3
PHILO 320 - Symbolic Logic I **Credits:** 3
PHILO 330 - Moral Philosophy **Credits:** 3
PHILO 335 - Introduction to Social and Political Philosophy **Credits:** 3
PHILO 346 - Grasping Reality: The Art of Analysis **Credits:** 3

Philosophy Pre-Law Option Requirements: 3 Credit Hours

PHILO 535 - Philosophy of Law **Credits:** 3

Philosophy (Philo) Elective Requirements: 18 Credit Hours

Students take one course (3 credits) at the 100 level or above, three courses (9 credits) at the 300 level or above, and three courses (9 credits) at the 500 level or above.

PHILO 100+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

NOTE: If a student is double-majoring in philosophy and any other major, up to 12 credits from the other major may be substituted for philosophy electives. In addtion, one philosophy elective must be replaced with PHILO 680 , Independent Study, wherein the student focuses on topics common to the two majors.

BS Natural and Quantitative Restricted: 12-15 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course Credits: 3-5

Quantitative course Credits: 3-4

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

BS Social Sciences Restricted Electives: 3 Credit Hours

3 credit hours in each of the following, at any level:

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: 25

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Philosophy - Pre-Medicine (BS)

The program in philosophy gives students an understanding of traditional philosophical subjects such as the nature and justification of moral values, religious and scientific explanations of the world, the rationality of social institutions, and the nature of reasoning and argument.

Pre-Medicine Option: While no one major is given preference by medical schools and related post-graduate programs, their admission committees recognize philosophy as a valuable primary or secondary major. In fact, surveys indicate that nationally, philosophy graduates have some of the highest acceptance rates at medical schools. Students in this program will be advised to supplement their education with an important science component.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except Philosophy, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for PHILO) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Philosophy (Philo) Common Requirements: 15 Credit Hours

PHILO 305 - Introduction to Decision Theory **Credits:** 3
PHILO 320 - Symbolic Logic I **Credits:** 3
PHILO 330 - Moral Philosophy **Credits:** 3
PHILO 335 - Introduction to Social and Political Philosophy **Credits:** 3
PHILO 346 - Grasping Reality: The Art of Analysis **Credits:** 3

Philosophy Pre-Medicine Option Requirements: 3 Credit Hours

PHILO 365 - Medical Ethics **Credits:** 3

Philosophy (Philo) Elective Requirements: 18 Credit Hours

Students take one course (3 credits) at the 100 level or above, two courses (6 credits) at the 300 level or above, and three courses (9 credits) at the 500 level or above.

PHILO 100+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

BS Natural and Quantitative Requirements: 12-15 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course Credits: 3-5

Quantitative course Credits: 3-4

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

BS Arts, Humanities, and Social Sciences Requirements: 3 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: 22-25

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Philosophy - Pre-Ministry (BS)

The program in philosophy gives students an understanding of traditional philosophical subjects such as the nature and justification of moral values, religious and scientific explanations of the world, the rationality of social institutions, and the nature of reasoning and argument.

Pre-Ministry Option: This is a nonsectarian program designed for students who are interested in the religious ministry as a profession. Students will be advised on other courses outside philosophy recommended by most American schools of theology.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except Philosophy, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for PHILO) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Philosophy (Philo) Common Requirements: 15 Credit Hours

PHILO 305 - Introduction to Decision Theory **Credits:** 3
PHILO 320 - Symbolic Logic I **Credits:** 3
PHILO 330 - Moral Philosophy **Credits:** 3
PHILO 335 - Introduction to Social and Political Philosophy **Credits:** 3
PHILO 346 - Grasping Reality: The Art of Analysis **Credits:** 3

Philosophy Pre-Ministry Option Requirements: 3 Credit Hours

PHILO 615 - Philosophy of Religion **Credits:** 3

Philosophy (Philo) Elective Requirements: 18 Credit Hours

Students take one course (3 credits) at the 100 level or above, three courses (9 credits) at the 300 level or above, and three courses (9 credits) at the 500 level or above.

PHILO 100+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

NOTE: If a student is double-majoring in philosophy and any other major, up to 12 credits from the other major may be substituted for philosophy electives. In addtion, one philosophy elective must be replaced with PHILO 680, Independent Study, wherein the student focuses on topics common to the two majors.

BS Natural and Quantitative Restricted: 12-15 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course Credits: 3-5

Quantitative course Credits: 3-4

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

BS Social Sciences Restricted Electives: 3 Credit Hours

3 credit hours in each of the following, at any level:

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: 22-25

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Philosophy - Standard (BS)

The program in philosophy gives students an understanding of traditional philosophical subjects such as the nature and justification of moral values, religious and scientific explanations of the world, the rationality of social institutions, and the nature of reasoning and argument.

Standard Option: This option is for students who are interested in a traditional liberal arts course of study.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except Philosophy, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for PHILO) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Philosophy (Philo) Common Requirements: 15 Credit Hours

PHILO 305 - Introduction to Decision Theory **Credits:** 3
PHILO 320 - Symbolic Logic I **Credits:** 3
PHILO 330 - Moral Philosophy **Credits:** 3

PHILO 335 - Introduction to Social and Political Philosophy **Credits:** 3
PHILO 346 - Grasping Reality: The Art of Analysis **Credits:** 3

Philosophy (Philo) Elective Requirements: 21 Credit Hours

Students take one course (3 credits) at the 100 level or above, three courses (9 credits) at the 300 level or above, and three courses (9 credits) at the 500 level or above.

PHILO 100+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 300+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

PHILO 500+ elective - 3 credit hours

NOTE: If a student is double-majoring in philosophy and any other major, up to 12 credits from the other major may be substituted for philosophy electives. In addtion, one philosophy elective must be replaced with PHILO 680 , Independent Study, wherein the student focuses on topics common to the two majors.

BS Natural and Quantitative Restricted: 12-15 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course Credits: 3-5

Quantitative course Credits: 3-4

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

BS Social Sciences Restricted Electives: 3 Credit Hours

3 credit hours in each of the following, at any level:

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: 22-25

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Minor

Philosophy Minor

Program requirements

Choose one logic course from the following (3 credit hours):

PHILO 110 - Introduction to Formal Logic **Credits:** 3
or
PHILO 320 - Symbolic Logic I **Credits:** 3

Minor Core (9 credit hours):

Three (3) courses numbered at or above 300, other than PHILO 320

Electives (6 credit hours)

Two philosophy electives, one of them at the 500 level or above.

Total credit hours: (18)

Undergraduate Certificate

Politics, Philosophy, and Economics of Health Policy Certificate

Multidisciplinary study of health policy integrating economic, political and ethical aspects of policy choice in medicine and public health. Students will acquire skills in the normative evaluation of public health policies, and investigate the economic consequences and the politics of policies in medicine and public health.

Required Courses: 9 credit hours

These courses introduce students to the necessary background in ethical, economic and political policy analysis of policies in medicine and public health.

ECON 688 - Health Economics **Credits:** 3
PHILO 365 - Medical Ethics **Credits:** 3
POLSC 377 - Introduction to Public Policy **Credits:** 3

Electives: 3 credit hours

These courses allow students to take a more narrowly focused look at health policy in some domain.

ANTH 315 - Introduction to Medical Anthropology & Global Health **Credits:** 3
ECON 633 - Public Finance **Credits:** 3
FNDH 311 - Health Promotion and Behavior **Credits:** 3
FNDH 600 - Public Health Nutrition **Credits:** 3
GWSS 365 - Reproductive Rights and Wrongs **Credits:** 3
HIST 534 - Social History of Medicine **Credits:** 3
KIN 318 - Rural Community Health **Credits:** 3
KIN 418 - Social Determinants and Diversity in Public Health **Credits:** 3
PHILO 565 - Advanced Topics in Medical Ethics **Credits:** 3
POLSC 643 - Global Human Rights **Credits:** 3
SOCIO 544 - Social Gerontology: An Introduction to the Sociology of Aging **Credits:** 3

Total Hours Required: 12

Socially Responsible Information Sciences: Ethics in the Data Sciences Undergraduate Certificate

Requirements (15 credit hours)*†:

Basic Ethics (3 credit hours)

Choose one of the following:

PHILO 130 - Introduction to Moral Philosophy **Credits:** 3
PHILO 330 - Moral Philosophy **Credits:** 3

Basic Political Philosophy (3 credit hours)

Choose one of the following:

PHILO 135 - Introduction to Social and Political Philosophy **Credits:** 3
PHILO 335 - Introduction to Social and Political Philosophy **Credits:** 3
POLSC 155 - Introduction to Political Thought **Credits:** 3

Social Science of Structural Inequality (3 credit hours)

Choose one of the following:

AMETH 300 - Intercultural Competence in Institutions **Credits:** 3
GWSS 435 - Race/Sex/Science **Credits:** 3
POLSC 360 - Race, Ethnicity, and Politics **Credits:** 3
POLSC 545 - The Politics of Developing Nations **Credits:** 3
POLSC 606 - Gender and Politics **Credits:** 3
POLSC 643 - Global Human Rights **Credits:** 3
SOCIO 260 - Social Problems **Credits:** 3
SOCIO 541 - Wealth, Power, and Privilege **Credits:** 3
SOCIO 545 - The Sociology of Women **Credits:** 3

SOCIO 570 - Race and Ethnic Relations in the USA **Credits:** 3

Technology and Society (3 credit hours)

Choose one of the following:

COMM 330 - Rhetoric in Civic Life **Credits:** 3
ENGL 315 - Introduction to Popular Culture **Credits:** 3
ENGL 570 - Law, Politics, and Literature **Credits:** 3
HIST 320 - History of Technology **Credits:** 3
HIST 519 - Science and Technology in the United States **Credits:** 3
PHILO 386 - Philosophy of Computer Science and Software Engineering **Credits:** 3
CRIM 550 - Cybercrime, Security, and Society **Credits:** 3

Directed Study in Applied Ethics (3 credit hours)

Choose one of the following:

PHILO 680 - Independent Study in Philosophy **Credits:** 1-18
SOCIO 599 - Senior Thesis in Sociology **Credits:** 3-6

*At least 12 of the 15 credit hours must be at the 300 level or above
†Directed studies must be jointly directed by at least one faculty with a research focus in ethics

Total Hours Required: 15

Other Program Choices

Philosophy - Pre-Business (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
PHILO 100 - Introduction to Philosophical Problems	3	**KSC 060**
ENGL 100 - Expository Writing I	3	**KSC 010**
COMM 106 - Public Speaking I	3	**KSC 020**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Social & Behavioral Sciences Requirement	3	**KSC 050**
DAS 101 -Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 16		

Semester 2		
PHILO 330 - Moral Philosophy	3	
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Natural & Physical Sciences Requirement	4	**KSC 040**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Second Year		
Semester 1	3	
PHILO 320 - Symbolic Logic I	3	
Foreign Language I	4	
Quantitative Course	3	
Art and Humanities	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
PHILO 305 - Introduction to Decision Theory	3	
PHILO 335 - Introduction to Social and Political Philosophy	3	
Foreign Language 2	4	
Non-Quantative Social Science Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**

Total Credits: 16		
Third Year		
Semester 1		
PHILO 346 - Grasping Reality: The Art of Analysis	3	
PHILO 380 - Philosophy and Race	3	
US Multicultural Overlay - Quantatitive Elective	3	
Foreign Language 3	3	
Certificate/ Minor - Select from courses required for a certificate or minor outside CIP code 38	3	
Total Credits: 15		
Semester 2		
PHILO 390 - Business Ethics	3	
PHILO 525 - Social-Political Philosophy	3	
Foreign Language 4	3	
Certificate/ Minor - Select from courses required for a certificate or minor outside CIP code 38	3	
Free Elective	3	
Total Credits: 15		
Fourth Year		
Semester 1		
PHILO 331 - Philosophy of Gender	3	
PHILO 585 - Ethics	3	
Outside Concentration	3	
Free Elective	2	

Free Elective	3	
Total Credits: 14		
Semester 2		
PHILO 535 - Philosophy of Law	3	
Outside Concentration	3	
Outside Concentration	3	
Global Perspective - Global Perspectives Overlay	3	
Total Credits: 12		
Total Program Hours: 120		

Philosophy - Pre-Business (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
PHILO 130 - Introduction to Moral Philosophy	3	**KSC 060**
ENGL 100 - Expository Writing I	3	**KSC 010**
COMM 106 - Public Speaking I	3	**KSC 020**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Social & Behavioral Sciences Requirement	3	**KSC 050**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 16		
Semester 2		

PHILO 330 - Moral Philosophy	3		
ENGL 200 Expository Writing II **OR**	3	**KSC 010**	
ENGL 210 - Honors English	3	**KSC 010**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Natural & Physical Sciences Requirement	4	**KSC 040**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 16			
Second Year			
Semester 1			
PHILO 320 - Symbolic Logic I	3		
Natural Science	4		
Quantitative Course	3		
Art and Humanities	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Semester 2			
PHILO 305 - Introduction to Decision Theory	3		
PHILO 335 - Introduction to Social and Political Philosophy	3		
Quantitative Course	3		
Non-Quantitative Social Science	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			

Third Year			
Semester 1			
PHILO 346 - Grasping Reality: The Art of Analysis	3		
PHILO 380 - Philosophy and Race	3		
Quantitative Course	3		
Outside Concentration	3		
Outside Concentration	3		
Total Credits: 15			
Semester 2			
PHILO 390 - Business Ethics	3		
PHILO 525 - Social-Political Philosophy	3		
Outside Concentration	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
PHILO 331 - Philosophy of Gender	3		
PHILO 535 - Philosophy of Law	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			

Semester 2			
PHILO 585 - Ethics	3		
Free Elective	3		
Free Elective	3		
Global Perspectives - Global Perspectives Overlay	3		
Total Credits: 12			
Total Program Hours: 120			

Philosophy - Pre-Law (BA) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
PHILO 160 - Introduction to Philosophy of Law	3	**KSC 060**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
COMM 106 - Public Speaking I	3	**KSC 020**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
Total Credits: 16			
Semester 2			
PHILO 330 - Moral Philosophy	3		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**	
ENGL 210 - Honors English	3	**KSC 010**	

Social & Behavioral Sciences Requirement	3	**KSC 050**
Natural & Physical Science Requirement	4	**KSC 040**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Second Year		
Semester 1		
PHILO 320 - Symbolic Logic I	3	
Foreign Language 1	4	
Quantitative Course - A&S Quantitative, Natural or Quantitative Social Science List	3	
Fine Arts and Humanities	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
PHILO 305 - Introduction to Decision Theory	3	
PHILO 335 - Introduction to Social and Political Philosophy	3	
Foreign Language 2	4	
Non-Quantitative Social Science	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Third Year		
Semester 1		
PHILO 346 - Grasping Reality: The Art of Analysis	3	

PHILO 380 - Philosophy and Race	3		
Quantitative and Natural Science	3		
Foreign Language 3	3		
Outside Concentration	3		
Total Credits: 15			
Semester 2			
PHILO 326 - Philosophy of Science: Evidence, Evolution and Intelligent Design	3		
PHILO 525 - Social-Political Philosophy	3		
Foreign Language 4	3		
Outside Concentration	3		
Free Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
PHILO 331 - Philosophy of Gender	3		
PHILO 585 - Ethics	3		
Outside Concentration	3		
Free Elective	3		
Free Elective	2		
Total Credits: 14			
Semester 2			
PHILO 535 - Philosophy of Law	3		

Free Elective	3		
Free Elective	3		
Global Perspectives Overlay	3		
Total Credits: 12			
Total Program Hours: 120			

Philosophy - Pre-Law (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
PHILO 160 - Introduction to Philosophy of Law	3	**KSC 060**	
ENGL 100 Expository Writing I	3	**KSC 010**	
COMM 106 - Public Speaking I	3	**KSC 020**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
Total Credits: 16			
Semester 2			
PHILO 330 - Moral Philosophy	3		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**	
ENGL 210 - Honors English	3	**KSC 010**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Natural & Physical Sciences Requirement	4	**KSC 040**	
Arts & Humanities Requirement	3	**KSC 060**	

Total Credits: 16		
Second Year		
Semester 1		
PHILO 320 - Symbolic Logic I	3	
Natural Science	4	
Quantitative Course	3	
Art and Humanities	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
PHILO 305 - Introduction to Decision Theory	3	
PHILO 335 - Introduction to Social and Political Philosophy	3	
Quantitative Course	3	
Social Science	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Third Year		
Semester 1		
PHILO 346 - Grasping Reality: The Art of Analysis	3	
PHILO 380 - Philosophy and Race	3	
Quantitative Course	3	
Outside Concentration	3	

Outside Concentration	3		
Total Credits: 15			
Semester 2			
PHILO 326 - Philosophy of Science: Evidence, Evolution and Intelligent Design	3		
PHILO 525 - Social-Political Philosophy	3		
Outside Concentration	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
PHILO 331 - Philosophy of Gender	3		
PHILO 535 - Philosophy of Law	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
PHILO 585 - Ethics	3		
Free Elective	3		
Free Elective	3		
Global Perspectives Overlay	3		

Total Credits: 12			
Total Program Hours: 120			

Philosophy - Pre-Medicine (BA) Academic Degree Map

First Year	Hour	K-State Core	
Semester 1			
PHILO 100 - Introduction to Philosophical Problems	3	**KSC 060**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
COMM 106 - Public Speaking I	3	**KSC 020**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
Total Credits: 16			
Semester 2			
PHILO 330 - Moral Philosophy	3		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**	
ENGL 210 - Honors English	3	**KSC 010**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Natural & Physical Sciences Requirement	4	**KSC 040**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits:16			
Second Year			

Semester 1			
PHILO 320 - Symbolic Logic I	3		
Foreign Language 1	4		
Quantitative Course	3		
Art and Humanities	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Semester 2			
PHILO 305 - Introduction to Decision Theory	3		
PHILO 335 - Introduction to Social and Political Philosophy	3		
Foreign Language 2	4		
Non-Quantitative Social Science	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Third Year			
Semester 1			
PHILO 346 - Grasping Reality: The Art of Analysis	3		
PHILO 380 - Philosophy and Race	3		
Quantitative and Natural Science	3		
Foreign Language 3	3		
Outside Concentration	3		
Total Credits: 15			

Semester 2			
PHILO 365 - Medical Ethics	3		
PHILO 525 - Social-Political Philosophy	3		
Foreign Language 4	3		
Outside Concentration	3		
Free Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
PHILO 331 - Philosophy of Gender	3		
PHILO 585 - Ethics	3		
Outside Concentration	3		
Free Elective	3		
Free Elective	3		
Semester 2			
PHILO 535 - Philosophy of Law	3		
Free Elective	3		
Free Elective	3		
Global Perspectives Overlay	3		
Total Credits: 12			
Total Program Hours: 120			

Philosophy - Pre-Medicine (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
PHILO 130 - Introduction to Moral Philosophy	3	**KSC 060**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
COMM 106 - Public Speaking I	3	**KSC 020**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
Total Credits: 16			
Semester 2			
PHILO 330 - Moral Philosophy	3		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**	
ENGL 210 - Honors English	3	**KSC 010**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Natural & Physical Sciences Requirement	4	**KSC 040**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 16			
Second Year			
Semester 1			
PHILO 320 - Symbolic Logic I	3		
Natural Science	4		
Quantitative Course	3		
Art and Humanities	3		

Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Semester 2			
PHILO 305 - Introduction to Decision Theory	3		
PHILO 335 - Introduction to Social and Political Philosophy	3		
Quantitative Course	3		
Social Science	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Third Year			
Semester 1			
PHILO 346 - Grasping Reality: The Art of Analysis	3		
PHILO 380 - Philosophy and Race	3		
Quantitative Course	3		
Outside Concentration	3		
Outside Concentration	3		
Total Credits: 15			
Semester 2			
PHILO 365 - Medical Ethics	3		
PHILO 525 - Social-Political Philosophy	3		
Outside Concentration	3		
Free Elective	3		

Free Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
PHILO 331 - Philosophy of Gender	3		
PHILO 565 - Advanced Topics in Medical Ethics	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
PHILO 585 - Ethics	3		
Free Elective	3		
Free Elective	3		
Global Perspectives Overlay	3		
Total Credits: 12			
Total Program Hours: 120			

Philosophy - Pre-Ministry (BA) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
PHILO 115 - Introduction to Philosophy of Religion	3	**KSC 060**	

ENGL 100 - Expository Writing I	3	**KSC 010**
COMM 106 - Public Speaking I	3	**KSC 020**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Social & Behavioral Sciences Requirement	3	**KSC 050**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 16		
Semester 2		
PHILO 330 - Moral Philosophy	3	
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Natural & Physical Sciences Requirement	4	**KSC 040**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Second Year		
Semester 1		
PHILO 320 - Symbolic Logic I	3	
Foreign Language 1	4	
Quantitative Course	3	
Art and Humanities	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		

Semester 2		
PHILO 305 - Introduction to Decision Theory	3	
PHILO 335 - Introduction to Social and Political Philosophy	3	
Foreign Language 2	4	
Non-Quantitative Social Science	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Third Year		
Semester 1		
PHILO 346 - Grasping Reality: The Art of Analysis	3	
PHILO 380 - Philosophy and Race	3	
Quantitative Course	3	
Foreign Language 3	3	
Outside Concentration	3	
Total Credits: 15		
Semester 2		
PHILO 326 - Philosophy of Science: Evidence, Evolution and Intelligent Design	3	
PHILO 525 - Social-Political Philosophy	3	
Foreign Language 4	3	
Outside Concentration	3	
Free Elective	3	
Total Credits: 15		

Fourth Year		
Semester 1		
PHILO 331 - Philosophy of Gender	3	
PHILO 585 - Ethics	3	
Outside Concentration	3	
Free Elective	3	
Free Elective	3	
Total Credits: 14		
Semester 2		
PHILO 615 - Philosophy of Religion	3	
Free Elective	3	
Free Elective	3	
Global Perspectives	3	
Total Credits: 12		
Total Program Hours: 120		

Philosophy - Pre-Ministry (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
PHILO 115 - Introduction to Philosophy of Religion	3	**KSC 060**
ENGL 100 - Expository Writing I	3	**KSC 010**
COMM 106 - Public Speaking I	3	**KSC 020**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**

Social & Behavioral Sciences Requirement	3	**KSC 050**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 16		
Semester 2		
PHILO 330 - Moral Philosophy	3	
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Natural & Physical Sciences Requirement	4	**KSC 040**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Second Year		
Semester 1		
PHILO 320 - Symbolic Logic I	3	
Natural Science	4	
Quantitative Course	3	
Art and Humanities	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
PHILO 305 - Introduction to Decision Theory	3	
PHILO 335 - Introduction to Social and Political Philosophy	3	

Quantitative Course	3	
Social Science	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Third Year		
Semester 1		
PHILO 346 - Grasping Reality: The Art of Analysis	3	
PHILO 380 - Philosophy and Race	3	
Quantitative Course	3	
Outside Concentration	3	
Outside Concentration	3	
Total Credits: 15		
Semester 2		
PHILO 326 - Philosophy of Science: Evidence, Evolution and Intelligent Design	3	
PHILO 525 - Social-Political Philosophy	3	
Outside Concentration	3	
Free Elective	3	
Free Elective	3	
Total Credits: 15		
Fourth Year		
Semester 1		
PHILO 331 - Philosophy of Gender	3	

PHILO 615 - Philosophy of Religion	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
PHILO 585 - Ethics	3		
Free Elective	3		
Free Elective	3		
Global Perspectives Overlay	3		
Total Credits: 12			
Total Program Hours: 120			

Philosophy - Standard (BA) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
PHILO 100 - Introduction to Philosophical Problems	3	**KSC 060**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
COMM 106 - Public Speaking I	3	**KSC 020**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
Total Credits: 16			

Semester 2		
PHILO 330 - Moral Philosophy	3	
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Natural & Physical Sciences Requirement	4	**KSC 040**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Second Year		
Semester 1		
PHILO 320 - Symbolic Logic I	3	
Foreign Language 1	4	
Quantitative Course	3	
Art and Humanities	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
PHILO 305 - Introduction to Decision Theory	3	
PHILO 335 - Introduction to Social and Political Philosophy	3	
Foreign Language 2	4	
Social Science	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**

Total Credits: 16			
Third Year			
Semester 1			
PHILO 346 - Grasping Reality: The Art of Analysis	3		
PHILO 380 - Philosophy and Race	3		
Quantitative Course	3		
Foreign Language 3	3		
Outside Concentration	3		
Total Credits: 15			
Semester 2			
PHILO 326 - Philosophy of Science: Evidence, Evolution and Intelligent Design	3		
PHILO 525 - Social-Political Philosophy	3		
Foreign Language 4	3		
Outside Concentration	3		
Free Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
PHILO 331 - Philosophy of Gender	3		
PHILO 585 - Ethics	3		
Outside Concentration	3		
Free Elective	3		

Free Elective	2		
Total Credits: 14			
Semester 2			
PHILO 595 - Environmental Ethics	3		
Free Elective	3		
Free Elective	3		
Global Perspectives	3		
Total Credits: 12			
Total Program Hours: 120			

Philosophy - Standard (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
PHILO 100 - Introduction to Philosophical Problems	3	**KSC 060**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
COMM 106 - Public Speaking I	3	**KSC 020**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
Total Credits: 16			
Semester 2			
PHILO 330 - Moral Philosophy	3		

ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Natural & Physical Sciences Requirement	4	**KSC 040**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Second Year		
Semester 1		
PHILO 320 - Symbolic Logic I	3	
Natural Science	4	
Quantitative Course	3	
Art and Humanities	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
PHILO 305 - Introduction to Decision Theory	3	
PHILO 335 - Introduction to Social and Political Philosophy	3	
Quantitative Course	3	
Social Science	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits 15		
Third Year		

Semester 1			
PHILO 346 - Grasping Reality: The Art of Analysis	3		
PHILO 380 - Philosophy and Race	3		
Quantitative Course	3		
Outside Concentration	3		
Outside Concentration	3		
Total Credits: 15			
Semester 2			
PHILO 326 - Philosophy of Science: Evidence, Evolution and Intelligent Design	3		
PHILO 525 - Social-Political Philosophy	3		
Outside Concentration	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
PHILO 331 - Philosophy of Gender	3		
PHILO 585 - Ethics	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			

Semester 2			
PHILO 595 - Environmental Ethics	3		
Free Elective	3		
Free Elective	3		
Global Perspectives Overlay	3		
Total Credits: 12			
Total Program Hours: 120			

Physics

Timothy A. Bolton, Head
James T. Laverty, Director of Physics Majors Programs
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Physics is the most fundamental of all sciences. It is the science of matter, energy and the interactions between them. Many of the problems that will need to be solved in the coming decades will occur on the interface between physics and related areas. Understanding and utilizing new energy technologies , developing new materials for the next generation of computers and improving methods of medical imaging–all of these and more will require a thorough knowledge of physics. Across the nation over the past decade, roughly 95 percent of graduates with bachelor's degrees in physics found employment or enrolled in graduate school immediately following graduation.

A career in physics is rewarding and satisfying for people who enjoy solving problems by looking at the underlying basic principles. Physicists are trained to formulate their understanding of a problem or phenomenon in precise terms and to communicate these ideas to others. These skills are becoming especially valuable today as our nation and world depend more on science and technology. After graduation, many students with a keen interest in research join graduate programs in physics. These typically provide a stipend and tuition waiver. This career path eventually leads to conducting basic research in industrial, university and national laboratories.

Students that choose not to attend physics graduate school can also be well poised to enter complementary fields. Many physics majors take additional courses in areas such as math, computer science, chemistry or engineering – perhaps even completing a minor or additional degree. They enter jobs or graduate programs in these fields after graduating. Physics majors may also obtain their secondary physics teaching license during their time at K-State.

We also encourage students with diverse interests to add on qualifications that can help transition that interest into a career. A minor or double major in entrepreneurship may be of interest to a student who plans to enter management positions or pursue their own business enterprises. Physics also partners with the prelaw program to prepare students who wish to eventually practice

intellectual property law. Students can also pursue interdisciplinary plans that encourage careers in science journalism or technical writing.

We offer three different physics bachelor's degrees. The Bachelor of Science in physics is the best preparation for advanced degrees in physics, but the Bachelor of Science in general physics and the Bachelor of Arts in physics offer a broad foundation in physics while requiring fewer physics courses, leaving room for other areas. These programs of study have been designed to provide a firm basic foundation in physics and mathematics. The program includes formal lecture courses, interactive and engaging studio courses that integrate laboratory demonstrations and problem solving, computer-based learning labs, and regular seminars on our research projects. A minor requiring 17-19 credit hours is also available.

Undergraduate research

All students with a major or minor in physics can and should participate in the research activities of the department. The involvement in research is arranged on an individual basis and may begin as early as the first semester. Students who participate in research may receive either credit or a stipend. Research areas available to undergraduates are atomic, molecular, and optical physics, condensed, soft and biological matter physics, cosmology, high energy physics, and physics education.

Bachelor of Arts

Physics (BA)

Physics is the most fundamental of all sciences. It is the science of matter, energy and the interactions between them. Many of the problems that will need to be solved in the coming decades will occur on the interface between physics and related areas. Understanding and utilizing new energy technologies , developing new materials for the next generation of computers and improving methods of medical imaging–all of these and more will require a thorough knowledge of physics. Across the nation over the past decade, roughly 95 percent of graduates with bachelor's degrees in physics found employment or enrolled in graduate school immediately following graduation.

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Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: (1 credit hour)

Any A&S College approved graded orientation course will be accepted. See College catalog page for course lists.

PHYS 122 - Physics Today I **Credits:** 1

Outside Concentration: (9 credit hours)

Outside credential of at least 9 credit hours (May be from any unit, except Physics, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for PHYS) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: ([9] credit hours)

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]

Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Physics Requirements: (38 credit hours)

PHYS 122 - Physics Today I **Credits:** 1
PHYS 123 - Physics Today II **Credits:** 1
PHYS 213 - Engineering Physics I **Credits:** 5
PHYS 214 - Engineering Physics II **Credits:** 5
PHYS 325 - Physics III, Relativity, and Quantum Physics **Credits:** 4
PHYS 506 - Advanced Physics Laboratory **Credits:** 4
PHYS 522 - Mechanics **Credits:** 4
PHYS 532 - Electromagnetic Fields I **Credits:** 4
PHYS 662 - Introduction to Quantum Mechanics **Credits:** 4
PHYS 664 - Thermodynamics and Statistical Physics **Credits:** 3
Choose one course (3 credits) of any PHYS course 600+

Mathematics Requirements: (12 credit hours)

Credit total assumes MATH 220 counted as part of the K-State Core 3

MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
OR
MATH 250 - Mathematical Scholars Calculus 1 **Credits:** 4
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
OR
MATH 251 - Mathematical Scholars Calculus 2 **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
OR
MATH 350 - Mathematical Scholars Calculus 3 **Credits:** 5
MATH 340 - Elementary Differential Equations **Credits:** 4

BA Arts, Humanities, and Social Sciences Restricted Electives: (12 credit hours)

3 credit hours in each of the following, with at least 6 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities: (3 credit hours)

Any course or combination of courses in Fine Arts: (3 credit hours)

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq: (3 credit hours)

BA Second Language Requirement: (3-16 credit hours)

Choose one of the following:

Option 1: (3-14 credit hours)

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: (16 credit hours)

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: (3 credit hours)

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 0-11 credit hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

Natural and Quantitative

- Natural Science: PHYS courses PHYS 122, PHYS 123, PHYS 213, PHYS 214, PHYS 325, PHYS 506, PHYS 522, PHYS 532, PHYS 662, PHYS 664, any PHYS course 600 or above (listed in Physics Requirements)
- Quantitative: MATH courses: MATH 220, MATH 221, MATH 222, MATH 250, MATH 251, MATH 340, MATH 350 (listed in Mathematics Requirements)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) MATH and PHYS courses- MATH 220, MATH 221, MATH 222, MATH 250, MATH 251, MATH 340, MATH 350, PHYS 213, PHYS 214, PHYS 325, PHYS 506, PHYS 522, PHYS 532, PHYS 662, PHYS 664, any PHYS course 600 or above (listed in Physics and/or Mathematics Requirements)
- Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) MATH and PHYS courses- MATH 220, MATH 221, MATH 222, MATH 250, MATH 251, MATH 340, MATH 350, PHYS 213, PHYS 214, PHYS 325, PHYS 506, PHYS 522, PHYS 532, PHYS 662, PHYS 664, any PHYS course 600 or above (listed in Physics and/or Mathematics Requirements)

Bachelor of Science

Physics (BS)

Physics is the most fundamental of all sciences. It is the science of matter, energy and the interactions between them. Many of the problems that will need to be solved in the coming decades will occur on the interface between physics and related areas.

Understanding and utilizing new energy technologies , developing new materials for the next generation of computers and improving methods of medical imaging–all of these and more will require a thorough knowledge of physics. Across the nation over the past decade, roughly 95 percent of graduates with bachelor's degrees in physics found employment or enrolled in graduate school immediately following graduation.

A career in physics is rewarding and satisfying for people who enjoy solving problems by looking at the underlying basic principles. Physicists are trained to formulate their understanding of a problem or phenomenon in precise terms and to communicate these ideas to others. These skills are becoming especially valuable today as our nation and world depend more on science and technology. After graduation, many students with a keen interest in research join graduate programs in physics. These typically provide a stipend and tuition waiver. This career path eventually leads to conducting basic research in industrial, university and national laboratories.

Students that choose not to attend physics graduate school can also be well poised to enter complementary fields. Many physics majors take additional courses in areas such as math, computer science, chemistry or engineering – perhaps even completing a minor or additional degree. They enter jobs or graduate programs in these fields after graduating. Physics majors may also obtain their secondary physics teaching license during their time at K-State.

We also encourage students with diverse interests to add on qualifications that can help transition that interest into a career. A minor or double major in entrepreneurship may be of interest to a student who plans to enter management positions or pursue their own business enterprises. Physics also partners with the prelaw program to prepare students who wish to eventually practice intellectual property law. Students can also pursue interdisciplinary plans that encourage careers in science journalism or technical writing.

We offer three different physics bachelor's degrees. The Bachelor of Science in physics is the best preparation for advanced degrees in physics, but the Bachelor of Science in general physics and the Bachelor of Arts in physics offer a broad foundation in physics while requiring fewer physics courses, leaving room for other areas. These programs of study have been designed to provide a firm basic foundation in physics and mathematics. The program includes formal lecture courses, interactive and engaging studio courses that integrate laboratory demonstrations and problem solving, computer-based learning labs, and regular seminars on our research projects. A minor requiring 17-19 credit hours is also available.

Undergraduate research

All students with a major or minor in physics can and should participate in the research activities of the department. The involvement in research is arranged on an individual basis and may begin as early as the first semester. Students who participate in research may receive either credit or a stipend. Research areas available to undergraduates are atomic,molecular, and optical physics, condensed, soft and biological matter physics, cosmology, high energy physics, and physics education.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: (1 credit hour)

Any A&S College approved graded orientation course will be accepted. See College catalog page for course lists.

PHYS 122 - Physics Today I **Credits:** 1

Outside Concentration: (9 credit hours)

Outside credential of at least 9 credit hours (May be from any unit, except Physics, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for PHYS) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: ([9] credit hours)

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Physics Requirements: (51 credit hours)

PHYS 122 - Physics Today I **Credits:** 1
PHYS 123 - Physics Today II **Credits:** 1
PHYS 213 - Engineering Physics I **Credits:** 5
PHYS 214 - Engineering Physics II **Credits:** 5
PHYS 325 - Physics III, Relativity, and Quantum Physics **Credits:** 4
PHYS 506 - Advanced Physics Laboratory **Credits:** 4
PHYS 522 - Mechanics **Credits:** 4
PHYS 532 - Electromagnetic Fields I **Credits:** 4
PHYS 633 - Electromagnetic Fields II **Credits:** 3
PHYS 636 - Physical Measurements Instrumentation **Credits:** 4
PHYS 662 - Introduction to Quantum Mechanics **Credits:** 4
PHYS 664 - Thermodynamics and Statistical Physics **Credits:** 3
PHYS 709 - Applied Quantum Mechanics **Credits:** 3
Choose two courses (6 credits) of any PHYS course 600+

Mathematics Requirements: (12 credit hours)

Credit total assumes MATH 220 counted as part of the K-State Core 3

MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
OR
MATH 250 - Mathematical Scholars Calculus 1 **Credits:** 4
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
OR
MATH 251 - Mathematical Scholars Calculus 2 **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
OR
MATH 350 - Mathematical Scholars Calculus 3 **Credits:** 5
MATH 340 - Elementary Differential Equations **Credits:** 4

BS Arts, Humanities, and Social Sciences Restricted Electives: (6 credit hours)

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses: (3 credit hours)

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq: (3 credit hours)

Free Electives: (5-7 credit hours)

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

Natural and Quantitative

Natural Science: PHYS courses PHYS 122, PHYS 123, PHYS 213, PHYS 214, PHYS 325, PHYS 506, PHYS 522, PHYS 532, PHYS 633, PHYS 636, PHYS 662, PHYS 664, PHYS 709, or any PHYS course 600 or above (listed in Physics Requirements)

Quantitative: MATH courses: MATH 220, MATH 221, MATH 222, MATH 250, MATH 251, MATH 340, MATH 350 (listed in Mathematics Requirements)

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) MATH and PHYS courses- MATH 220, MATH 221, MATH 222, MATH 250, MATH 251, MATH 340, MATH 350, PHYS 213, PHYS 214, PHYS 325, PHYS 506, PHYS 522, PHYS 532, PHYS 633, PHYS 636, PHYS 662, PHYS 664, PHYS 709, or any PHYS course 600 or above (listed in Physics and/or Mathematics Requirements)

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) MATH and PHYS courses- MATH 220, MATH 221, MATH 222, MATH 250, MATH 251, MATH 340, MATH 350, PHYS 213, PHYS 214, PHYS 325, PHYS 506, PHYS 522, PHYS 532, PHYS 633, PHYS 636, PHYS 662, PHYS 664, PHYS 709, or any PHYS course 600 or above (listed in Physics and/or Mathematics Requirements)

Physics - General Physics (BS)

Physics is the most fundamental of all sciences. It is the science of matter, energy and the interactions between them. Many of the problems that will need to be solved in the coming decades will occur on the interface between physics and related areas. Understanding and utilizing new energy technologies , developing new materials for the next generation of computers and improving methods of medical imaging–all of these and more will require a thorough knowledge of physics. Across the nation over the past decade, roughly 95 percent of graduates with bachelor's degrees in physics found employment or enrolled in graduate school immediately following graduation.

A career in physics is rewarding and satisfying for people who enjoy solving problems by looking at the underlying basic principles. Physicists are trained to formulate their understanding of a problem or phenomenon in precise terms and to communicate these ideas to others. These skills are becoming especially valuable today as our nation and world depend more on science and technology. After graduation, many students with a keen interest in research join graduate programs in physics. These typically provide a stipend and tuition waiver. This career path eventually leads to conducting basic research in industrial, university and national laboratories.

Students that choose not to attend physics graduate school can also be well poised to enter complementary fields. Many physics majors take additional courses in areas such as math, computer science, chemistry or engineering – perhaps even completing a minor or additional degree. They enter jobs or graduate programs in these fields after graduating. Physics majors may also obtain their secondary physics teaching license during their time at K-State.

We also encourage students with diverse interests to add on qualifications that can help transition that interest into a career. A minor or double major in entrepreneurship may be of interest to a student who plans to enter management positions or pursue their own business enterprises. Physics also partners with the prelaw program to prepare students who wish to eventually practice intellectual property law. Students can also pursue interdisciplinary plans that encourage careers in science journalism or technical writing.

We offer three different physics bachelor's degrees. The Bachelor of Science in physics is the best preparation for advanced degrees in physics, but the Bachelor of Science in general physics and the Bachelor of Arts in physics offer a broad foundation in physics while requiring fewer physics courses, leaving room for other areas. These programs of study have been designed to provide a firm basic foundation in physics and mathematics. The program includes formal lecture courses, interactive and engaging studio courses that integrate laboratory demonstrations and problem solving, computer-based learning labs, and regular seminars on our research projects. A minor requiring 17-19 credit hours is also available.

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All students with a major or minor in physics can and should participate in the research activities of the department. The involvement in research is arranged on an individual basis and may begin as early as the first semester. Students who participate in research may receive either credit or a stipend. Research areas available to undergraduates are atomic,molecular, and optical physics, condensed, soft and biological matter physics, cosmology, high energy physics, and physics education.

Kansas State University Core: 34-36 Credit Hours

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General Education: K-State Core

Program Requirements

Orientation: (1 credit hour)

Any A&S College approved graded orientation course will be accepted. See College catalog page for course lists.

PHYS 122 - Physics Today I **Credits:** 1

Outside Concentration: (9 credit hours)

Outside credential of at least 9 credit hours (May be from any unit, except Physics, etc, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for PHYS) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: ([9] credit hours)

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Physics Requirements: (38 credit hours)

PHYS 122 - Physics Today I **Credits:** 1
PHYS 123 - Physics Today II **Credits:** 1
PHYS 213 - Engineering Physics I **Credits:** 5
PHYS 214 - Engineering Physics II **Credits:** 5
PHYS 325 - Physics III, Relativity, and Quantum Physics **Credits:** 4
PHYS 506 - Advanced Physics Laboratory **Credits:** 4
PHYS 522 - Mechanics **Credits:** 4
PHYS 532 - Electromagnetic Fields I **Credits:** 4
PHYS 662 - Introduction to Quantum Mechanics **Credits:** 4
PHYS 664 - Thermodynamics and Statistical Physics **Credits:** 3
Choose one course (3 credits) of any PHYS course 600+

Mathematics Requirements: (12 credit hours)

Credit total assumes MATH 220 counted as part of the K-State Core 3

MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
OR
MATH 250 - Mathematical Scholars Calculus 1 **Credits:** 4
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
OR
MATH 251 - Mathematical Scholars Calculus 2 **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
OR
MATH 350 - Mathematical Scholars Calculus 3 **Credits:** 5
MATH 340 - Elementary Differential Equations **Credits:** 4

BS Arts, Humanities, and Social Sciences Restricted Electives: (6 credit hours)

3 credit hours in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Fine Arts or Humanities: Any course or combination of courses: (3 credit hours)

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq: (3 credit hours)

Free Electives: (18-20 credit hours)

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Arts & Sciences common degree requirements for the BS are satisfied by the following:

Natural and Quantitative

Natural Science: PHYS courses PHYS 122, PHYS 123, PHYS 213, PHYS 214, PHYS 325, PHYS 506, PHYS 522, PHYS 532, PHYS 662, PHYS 664, or any PHYS course 600 or above (listed in Physics Requirements)
Quantitative: MATH courses: MATH 220, MATH 221, MATH 222, MATH 250, MATH 251, MATH 340, MATH 350 (listed in Mathematics Requirements)
Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) MATH and PHYS courses- MATH 220, MATH 221, MATH 222, MATH 250, MATH 251, MATH 340, MATH 350, PHYS 213, PHYS 214, PHYS 325, PHYS 506, PHYS 522, PHYS 532, PHYS 662, PHYS 664, any PHYS course 600 or above (listed in Physics and/or Mathematics Requirements)
Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq: (3 credit hours) MATH and PHYS courses- MATH 220, MATH 221, MATH 222, MATH 250, MATH 251, MATH 340, MATH 350, PHYS 213, PHYS 214, PHYS 325, PHYS 506, PHYS 522, PHYS 532, PHYS 662, PHYS 664, any PHYS course 600 or above (listed in Physics and/or Mathematics Requirements)

Minor

Physics Minor

Program requirements

Basic courses

PHYS 325 - Physics III, Relativity, and Quantum Physics **Credits:** 4

Choose one from the following:

PHYS 213 - Engineering Physics I **Credits:** 5
or
PHYS 223 - Physics I, Mechanics, and Thermodynamics **Credits:** 5

Choose one from the following:

PHYS 214 - Engineering Physics II **Credits:** 5
or
PHYS 224 - Physics II, Electromagnetism, and Sound **Credits:** 5

Additional requirement:

Any physics course which has Physics III as a prerequisite **Credits:** 3-5

Total credit hours: (17-19)

Other Program Choices

Physics (BA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
PHYS 122 - Physics Today I	1	
MATH 220 - Analytic Geometry and Calculus I **OR**	4	**KSC 030**
MATH 250 - Mathematical Scholars Calculus 1	4	**KSC 030**
PHYS 213 - Engineering Physics I	5	**KSC 040**
Foreign Language Level I	4	
Free Elective	1	

Total Credits: 15		
Semester 2		
PHYS 123 - Physics Today II	1	
MATH 221 - Analytic Geometry and Calculus II **OR**	4	
MATH 251 - Mathematical Scholars Calculus 2	4	
PHYS 214 - Engineering Physics II	5	
Foreign Language Level II	4	
COMM 106 - Public Speaking I	3	**KSC 020**
Total Credits: 17		
Second Year		
Semester 1		
PHYS 325 - Physics III, Relativity, and Quantum Physics	3	
MATH 222 - Analytic Geometry and Calculus III	4	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Foreign Language Level III	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 17		
Semester 2		
PHYS 522 - Mechanics	4	
MATH 340 - Elementary Differential Equations	4	
Social and Behavioral Sciences Requirement (Ethical Reasoning Overlay)	3	**KSC 050**
Foreign Language Level IV	3	

ENGL 200 - Expository Writing II	3	**KSC 010**
Total Credits: 17		
Third Year		
Semester 1		
PHYS 664 - Thermodynamics and Statistical Physics	3	
PHYS 532 - Electromagnetic Fields I	4	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Social and Behavioral Sciences Requirement (Global Perspectives Overlay)	3	**KSC 050**
Outside Concentration #1	3	
Total Credits: 16		
Semester 2		
PHYS 662 - Introduction to Quantum Mechanics	4	
Free Elective	3	
Arts and Humanities Requirement (US Multicultural Overlay)	3	**KSC 060**
Outside Concentration #2 (Recommend MATH 515)	3	
Total Credits: 13		
Fourth Year		
Semester 1		
Major Elective (PHYS 600-799)	3	
Arts and Humanities Requirement	3	**KSC 060**
Outside Concentration #3	3	
Non-Quantitative Social Sciences Restrive Elective	3	

Total Credits: 12		
Semester 2		
Free Elective	3	
Humanities Restrictive Elective	3	
Fine Arts Restrictive Elective	3	
PHYS 506 - Advanced Physics Laboratory	4	
Total Credits: 13		
Total Program Hours: 120		

Physics (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
PHYS 122 - Physics Today I	1	
MATH 220 - Analytic Geometry and Calculus I **OR**	4	**KSC 030**
MATH 250 - Mathematical Scholars Calculus 1	4	**KSC 030**
PHYS 213 - Engineering Physics I	5	**KSC 040**
ENGL 100 - Expository Writing I	3	**KSC 010**
Free Elective	2	
Total Credits: 15		
Semester 2		
PHYS 123 - Physics Today II	1	

MATH 221 - Analytic Geometry and Calculus II **OR**	4	
MATH 251 - Mathematical Scholars Calculus 2	4	
PHYS 214 - Engineering Physics II	5	
ENGL 200 - Expository Writing II	3	**KSC 010**
Free Elective (CIS or CC Course)	3	
Total Credits: 16		
Second Year		
Semester 1		
PHYS 325 - Physics III, Relativity, and Quantum Physics	4	
MATH 222 - Analytic Geometry and Calculus III	4	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
COMM 106 - Public Speaking I	3	**KSC 020**
Total Credits: 14		
Semester 2		
PHYS 522 - Mechanics	4	
PHYS 636 - Physical Measurements Instrumentation	4	
MATH 340 - Elementary Differential Equations	4	
Social and Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Third Year		
Semester 1		
PHYS 664 - Thermodynamics and Statistical Physics	3	

PHYS 532 - Electromagnetic Fields I	4	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Social and Behavioral Sciences Requirement (US Multicultural Overlay)	3	**KSC 050**
Outside Concentration #1	3	
Total Credits: 16		
Semester 2		
PHYS 633 - Electromagnetic Fields II	3	
PHYS 662 - Introduction to Quantum Mechanics	4	
Arts and Humanities Requirement (Global Perspectives Overlay)	3	**KSC 060**
Outside Concentration #2	3	
Free Elective (CIS or CC Course)	3	
Total Credits: 16		
Fourth Year		
Semester 1		
Major Elective - PHYS 600-799	3	
Non-Quantitative Social Sciences Restrive Elective (Ethical Reasoning Overlay)	3	
Arts and Humanities Requirement	3	**KSC 060**
Outside Concentration #3 (Recommend STAT 510 or MATH 500-799)	3	
PHYS 709 - Applied Quantum Mechanics	3	
Total Credits: 15		
Semester 2		
Major Elective - PHYS 600-799	3	

Free Elective (Recommended CIS or CC Course)	3		
Humanities Restrictive Elective	3		
PHYS 506 Advanced Physics Laboratory	4		
Total Credits: 13			
Total Program Hours: 120			

Physics - General Physics (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
PHYS 122 - Physics Today I	1	
MATH 220 - Analytic Geometry and Calculus I **OR**	4	**KSC 030**
MATH 250 - Mathematical Scholars Calculus 1	4	**KSC 030**
PHYS 213 - Engineering Physics I	5	**KSC 040**
ENGL 100 - Expository Writing I	3	**KSC 010**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
PHYS 123 - Physics Today II	1	
MATH 221 - Analytic Geometry and Calculus II **OR**	4	
MATH 251 - Mathematical Scholars Calculus 2	4	
PHYS 214 - Engineering Physics II	5	
ENGL 200 - Expository Writing II	3	**KSC 010**

Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Second Year		
Semester 1		
PHYS 325 - Physics III, Relativity, and Quantum Physics	4	
MATH 222 - Analytic Geometry and Calculus III	4	
COMM 106 - Public Speaking I	3	**KSC 020**
Free Elective	3	
Total Credits: 14		
Semester 2		
PHYS 522 - Mechanics	4	
MATH 340 - Elementary Differential Equations	4	
Free Elective	3	
Social & Behavioral Sciences Requirement - Ethical Reasoning Overlay	3	**KSC 050**
Total Credits: 14		
Third Year		
Semester 1		
PHYS 664 - Thermodynamics and Statistical Physics	3	
PHYS 532 - Electromagnetic Fields I	4	
Free Elective	3	
Social & Behavioral Sciences Requirement - Global perspectives Overlay	3	**KSC 050**
Outside Concentration	3	

Total Credits: 16		
Semester 2		
PHYS 662 - Introduction to Quantum Mechanics	4	
Free Elective	3	
Arts/Humanities - US Multicultural Overlay	3	
Outside Concentration	3	
Free Elective	3	
Total Credits: 16		
Fourth Year		
Semester 1		
Free Elective	3	
Major Elective - PHYS 600-799	3	
Non-Quantitative Social Sciences Restrive Elective	3	
Arts & Humanities Requirement	3	**KSC 060**
Outside Concentration	3	
Total Credits: 15		
Semester 2		
Free Elective	3	
Free Elective	3	
Arts & Humanitites Requirement	3	**KSC 060**
PHYS 506 - Advanced Physics Laboratory	4	
Total Credits: 13		

Total Program Hours: 120			

Political Science

Nathaniel Birkhead, Head

101D Calvin Hall
785-532-6842

E-mail: polsci@k-state.edu
www.k-state.edu/polsci

Political science is the systematic study of power, governance, and political behavior—from local communities to global institutions. Our program equips students with a deep understanding of political systems, public policy, and civic engagement, while training them to think critically, communicate persuasively, and analyze complex problems with rigor.

Students in the political science major learn to evaluate arguments and evidence, conduct independent research, and interpret data using qualitative and quantitative methods. They explore key issues such as democracy and authoritarianism, justice and inequality, conflict and cooperation, and the role of institutions in shaping social outcomes.

The major fosters skills that are highly transferable and in demand, such as analytical reasoning, clear writing, effective communication, data literacy, and ethical decision-making. Political science graduates are well prepared for careers in government, law, nonprofit and advocacy work, international affairs, business, journalism, education, and research, as well as for graduate or professional study.

Both the BA and BS options offer flexibility for students to tailor their studies to their interests, while also offering five different tracks for students to specialize in a particular area within political science. Students are also encouraged to explore related fields such as economics, history, psychology, and data science to enhance their understanding of political dynamics in a broader context.

Advising and specialized curricula

Advising by faculty members

Advising is undertaken by Kathy Lillich (117A Calvin Hall) and Dr. John Fliter (101A Calvin Hall). For advising appointments or questions please contact by phone at 532-0642.

Primary Texts Certificate

Students can earn a certificate in the study of arts and science through primary texts while fulfilling Political Science and other required credit hours. This program focuses on learning subjects through reading original works instead of textbooks, and courses tend to emphasize communications skills. Contact the director of the certificate, Professor Laurie Johnson, 115 Calvin Hall, lauriej@ksu.edu, http://www.k-state.edu/artsci/primary/

Middle East Studies Minor

The Middle East Studies minor offers students a multidisciplinary exploration of one of the world's most dynamic and strategically important regions. Combining coursework in political science, history, language, philosophy, and more, the program equips students with cultural, linguistic, and analytical tools essential for global citizenship and careers in international affairs. With flexible course options and opportunities for language study and study abroad, this minor complements a wide range of majors. Students can tailor their experience while gaining valuable insight into the politics, history, and cultures of the Middle East. Contract the director of the minor, Professor Sabri Ciftci, ciftci@ksu.edu

International and Area studies

Students interested in the multidisciplinary study of the relations among countries, or in the study of world regions, may wish to pursue a secondary major in international and area studies. For more information, contact the International and Area Studies, 104 Eisenhower Hall.

Internships and community service for credit

Students may gain practical experience and academic credit by participating in internships in city, county, state, national, or international governments and organizations or through K-State's Community Service program. Contact Department Head Nathaniel Birkhead, 101C Calvin Hall. birkhead@ksu.edu.

Study abroad for credit

Opportunities exist for summer, one semester, or a full year of study abroad in many countries. These are coordinated through the Education Abroad Office on campus. Credits earned may be transferred back to K-State in consultation with appropriate departmental faculty. Many programs are exchanges where tuition costs are the same as studying at K-State. Contact the Education Abroad Office, 304 Fairchild Hall.

Bachelor of Arts

Political Science (BA)

The major in political science acquaints students with political aspects of society and encourages them to develop a critical and imaginative perspective on public issues. The program in political science provides the foundation for a liberal education, including the intellectual skills of critical analysis, writing, and discussion. It also emphasizes the importance of continuing involvement in political activity and public affairs. These educational experiences prepare our students for a variety of careers in fields including public service, business, teaching, research, journalism, public relations, and administration.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except **Political Science**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for **POLSC)** (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Programs

Statistics Requirement

If not met through K-State Core requirements, STAT 225 is required.

KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Introductory Courses: 9 Credit Hours

Required Introductory Course (3 credits)

POLSC 115 - U.S. Politics **Credits:** 3

Choose two courses (6 credits)

POLSC 135 - Introduction to Comparative Politics **Credits:** 3
POLSC 145 - World Politics **Credits:** 3
POLSC 155 - Introduction to Political Thought **Credits:** 3

Methods Course: 3 Credit Hours

POLSC 400 - Political Inquiry and Analysis **Credits:** 3

Advanced Courses: 12 Credit Hours

To be taken after POLSC 400. Choose four courses (12 credits) at the 500 level or above in two of the following areas: Political Thought, American Government and Politics, International Relations, Comparative Government and Politics.

Major Elective Courses: 12 Credit Hours

Choose four courses (12 credits) of POLSC at any level, except for POLSC 350. Only 3 credit hours are allowed to be readings or problems. Only six credits are allowed to be internship.

BA Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

BA Natural and Quantitative Restricted Electives: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 12-25 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

A&S Common Degree Requirements are satisfied by upper level Political Science courses, and the BA Restricted Electives in Natural and Quantitative Sciences, Humanties and Fine Arts, and Second Language.

Political Science - Global Politics and Security (BA)

The major in political science acquaints students with political aspects of society and encourages them to develop a critical and imaginative perspective on public issues. The program in political science provides the foundation for a liberal education, including the intellectual skills of critical analysis, writing, and discussion. It also emphasizes the importance of continuing involvement in political activity and public affairs. These educational experiences prepare our students for a variety of careers in fields including public service, business, teaching, research, journalism, public relations, and administration.

The Global Politics and Security offers a special focus in foreign policy, international relations, and global security, is an ideal opportunity for students considering careers in these fields.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except **Political Science,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for **POLSC**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Programs

Statistics Requirement

If not met through K-State Core requirements, STAT 225 is required.

KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Introductory Courses: 9 Credit Hours

Required Introductory Courses (6 credits)

POLSC 115 - U.S. Politics **Credits:** 3
POLSC 145 - World Politics **Credits:** 3

Choose one course (3 credits) from the following:

POLSC 135 - Introduction to Comparative Politics **Credits:** 3
POLSC 155 - Introduction to Political Thought **Credits:** 3

Methods Course: 3 Credit Hours

POLSC 400 - Political Inquiry and Analysis **Credits:** 3

Global Politics Requirements: 6 Credit Hours

Required Global Politics Courses (3 credits)

POLSC 343 - American Foreign Policy **Credits:** 3

Global Politics Electives (3 credits)

Choose one of the following:

POLSC 341 - Politics of the World Economy **Credits:** 3
POLSC 540 - Global Security Threats **Credits:** 3
POLSC 545 - The Politics of Developing Nations **Credits:** 3
POLSC 549 - International Defense Strategies **Credits:** 3
POLSC 638 - Ethnic Conflict **Credits:** 3
POLSC 642 - International Conflict **Credits:** 3
POLSC 653 - International Politics of the Middle East **Credits:** 3

Advanced Courses: 9 Credit Hours

To be taken after POLSC 400. Choose four courses (12 credits) at the 500 level or above in two of the following areas: Political Thought, American Government and Politics, International Relations, Comparative Government and Politics.

Major Elective Courses: 9 Credit Hours

Choose three courses (9 credits) of POLSC at any level, except for POLSC 350 . Only 3 credit hours are allowed to be readings or problems. Only 6 credits are allowed to be internship.

BA Arts and Humanities Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

BA Natural and Quantitative Restricted Electives: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Restricted Electives: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 12-25 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

A&S Common Degree Requirements are satisfied by upper level Political Science courses, and the BA Restricted Electives in Natural and Quantitative Sciences, Humanties and Fine Arts, and Second Language.

Political Science - Law (BA)

The major in political science acquaints students with political aspects of society and encourages them to develop a critical and imaginative perspective on public issues. The program in political science provides the foundation for a liberal education, including the intellectual skills of critical analysis, writing, and discussion. It also emphasizes the importance of continuing involvement in political activity and public affairs. These educational experiences prepare our students for a variety of careers in fields including public service, business, teaching, research, journalism, public relations, and administration.

The Law Track offers a special focus on the judiciary, legal reasoning, and is an ideal opportunity for students considering law school.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except **Policial Science,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for **POLSC**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Programs

Statistics Requirement

If not met through K-State Core requirements, STAT 225 is required.

KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Introductory Courses: 9 Credit Hours

Required Introductory Course (3 credits)

POLSC 115 - U.S. Politics **Credits:** 3

Choose two courses (6 credits) from the following:

POLSC 135 - Introduction to Comparative Politics **Credits:** 3
POLSC 145 - World Politics **Credits:** 3
POLSC 155 - Introduction to Political Thought **Credits:** 3

Methods Course: 3 Credit Hours

POLSC 400 - Political Inquiry and Analysis **Credits:** 3

Law Requirements: 6 Credit Hours

Choose one course (3 credits)

POLSC 614 - Constitutional Law **Credits:** 3
OR
POLSC 615 - The Constitution, Civil Rights and Civil Liberties **Credits:** 3
Choose one course (3 credits). This course should also count as an Advanced Course. If not already taken for above requirement, POLSC 614 or POLSC 615.
POLSC 607 - Administrative Law **Credits:** 3
POLSC 612 - The Judicial Process **Credits:** 3
POLSC 647 - International Law **Credits:** 3
POLSC 670 - Law, Politics, and Literature **Credits:** 3

Required Law Track Courses (3 credit hours)

POLSC 614 - Constitutional Law **Credits:** 3
OR
POLSC 615 - The Constitution, Civil Rights and Civil Liberties **Credits:** 3

Law Track Electives (3 credit hours)

Choose one of the following.

May choose POLSC 614 or POLSC 615 only if not taken above for credit as Required Courses

POLSC 607 - Administrative Law **Credits:** 3
POLSC 612 - The Judicial Process **Credits:** 3
POLSC 614 - Constitutional Law **Credits:** 3
POLSC 615 - The Constitution, Civil Rights and Civil Liberties **Credits:** 3
POLSC 647 - International Law **Credits:** 3
POLSC 670 - Law, Politics, and Literature **Credits:** 3

Advanced Courses: 9 Credit Hours

To be taken after POLSC 400. Choose three courses (9 credits) at the 500 level or above with at least one course from one of following areas: Political Thought, International Relations, Comparative Government and Politics. One course may be from American Government & Politics.

Major Electives: 9 Credit Hours

Choose four courses (12 credits) from POLSC at any level.

BA Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 12-25 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

A&S Common Degree Requirements are satisfied by upper level Political Science courses, and the BA Restricted Electives in Natural and Quantitative Sciences, Humanties and Fine Arts, and Second Language.

Political Science - Politics of the Global South (BA)

The major in political science acquaints students with political aspects of society and encourages them to develop a critical and imaginative perspective on public issues. The program in political science provides the foundation for a liberal education, including the intellectual skills of critical analysis, writing, and discussion. It also emphasizes the importance of continuing involvement in political activity and public affairs. These educational experiences prepare our students for a variety of careers in fields including public service, business, teaching, research, journalism, public relations, and administration.

The Politics of the Global South track is designed for students interested in careers that impact or involve the non-Western world and knowledge of African, Asian, Latin American, and Middle Eastern countries.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except **Political Science**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for **POLSC**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Program

Statistics Requirement

If not met through K-State Core requirements, STAT 225 is required.

KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Introductory Courses: 9 Credit Hours

POLSC 115 - U.S. Politics **Credits:** 3
POLSC 135 - Introduction to Comparative Politics **Credits:** 3
POLSC 145 - World Politics **Credits:** 3
OR
POLSC 155 - Introduction to Political Thought **Credits:** 3

Methods Course: 3 Credit Hours

POLSC 400 - Political Inquiry and Analysis **Credits:** 3

Politics of the Global South Requirements: 6 Credit Hours

Required Courses: 3 Credits Hours

POLSC 526 - Comparative Political Institutions **Credits:** 3
OR
POLSC 545 - The Politics of Developing Nations **Credits:** 3

Electives: 3 Credit Hours

Choose one 3 credit hour course

POLSC 526 and POLSC 545 may only be counted here as an elective if not taken to fulfill another requirement

POLSC 343 - American Foreign Policy **Credits:** 3
POLSC 388 - Latin American Politics **Credits:** 3
POLSC 390 - Middle East Politics **Credits:** 3
POLSC 524 - Political Islam **Credits:** 3
POLSC 526 - Comparative Political Institutions **Credits:** 3
POLSC 606 - Gender and Politics **Credits:** 3
POLSC 625 - East Asian Politics **Credits:** 3
POLSC 626 - African Politics **Credits:** 3
POLSC 653 - International Politics of the Middle East **Credits:** 3
POLSC 654 - International Politics of Africa **Credits:** 3
POLSC 655 - International Politics of Latin America **Credits:** 3

Advanced Courses: 9 Credit Hours

To be taken after POLSC 400. Choose four courses (12 credits) at the 500 level or above in two of the following areas: Political Thought, American Government and Politics, International Relations, Comparative Government and Politics.

Major Elective Courses: 9 Credit Hours

Choose three courses (9 credits) of POLSC at any level, except for POLSC 350. Only 3 credit hours are allowed to be readings or problems. Only 6 credits are allowed to be internship.

BA Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

BA Natural and Quantitative Restricted Electives: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 12-25 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

A&S Common Degree Requirements are satisfied by upper level Political Science courses, and the BA Restricted Electives in Natural and Quantitative Sciences, Humanties and Fine Arts, and Second Language.

Political Science - Public Service (BA)

The major in political science acquaints students with political aspects of society and encourages them to develop a critical and imaginative perspective on public issues. The program in political science provides the foundation for a liberal education, including the intellectual skills of critical analysis, writing, and discussion. It also emphasizes the importance of continuing involvement in political activity and public affairs. These educational experiences prepare our students for a variety of careers in fields including public service, business, teaching, research, journalism, public relations, and administration.

The Public Service track is designed for students interested in an administrative position in the public or nonprofit sector.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except **Political Science**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for **POLSC**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Program

Statistics Requirement

If not met through K-State Core requirements, STAT 225 is required.

KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Introductory Courses: 9 Credit Hours

Required Introductory Courses (3 credits)

POLSC 115 - U.S. Politics **Credits:** 3

Choose two courses (6 credits) from the following:

POLSC 135 - Introduction to Comparative Politics **Credits:** 3
POLSC 145 - World Politics **Credits:** 3
POLSC 155 - Introduction to Political Thought **Credits:** 3

Methods Course: 3 Credit Hours

POLSC 400 - Political Inquiry and Analysis **Credits:** 3

Public Service Requirements: 9 Credit Hours

Required Public Service Courses (6 Credit Hours)

POLSC 307 - Introduction to Public Administration **Credits:** 3
POLSC 377 - Introduction to Public Policy **Credits:** 3

Public Service Electives (3 Credit Hours)

Choose one course (3 credits) from the following:

POLSC 607 - Administrative Law **Credits:** 3
POLSC 618 - Urban Politics **Credits:** 3
POLSC 620 - State and Local Government **Credits:** 3

Advanced Courses: 9 Credit Hours

To be taken after POLSC 400. Choose three courses (9 credits) at the 500 level or above with at least one course from one of following areas: Political Thought, International Relations, Comparative Government and Politics. One course may be from American Government & Politics.

Students pursuing an accelerated degree with the MPA program should, for one of their Advanced Courses, choose one course (3 credits) from:

POLSC 700 - Research Methods in Political Science **Credits:** 3
POLSC 702 - Public Administration and Society **Credits:** 3
POLSC 708 - Public Personnel Administration **Credits:** 3
POLSC 710 - Policy Analysis and Evaluation **Credits:** 3
POLSC 735 - Public Organization Theory **Credits:** 3
POLSC 737 - Public Budgeting **Credits:** 3

Major Electives: 6 Credit Hours

Choose two courses (6 credits) from POLSC at any level.

BA Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

BA Natural and Quantitative Restricted Electives: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Restricted Electives: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 12-25 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

A&S Common Requirements are satisfied by upper level Polotical Science courses, and the BA Restricted Electives in Natural and Quantitative Sciences, Humanties and Fine Arts, and Second Language.

Political Science - Society and Environment (BA)

The major in political science acquaints students with political aspects of society and encourages them to develop a critical and imaginative perspective on public issues. The program in political science provides the foundation for a liberal education, including the intellectual skills of critical analysis, writing, and discussion. It also emphasizes the importance of continuing involvement in political activity and public affairs. These educational experiences prepare our students for a variety of careers in fields including public service, business, teaching, research, journalism, public relations, and administration.

The Society and Environment track is designed for students interested in social and environmental problem solving, agricultural and food-related private business, and non-profit and political advocacy groups.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except **Political Science**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for **POLSC**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Program

Statistics Requirement

If not met through K-State Core requirements, STAT 225 is required.

KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Introductory Courses: 9 Credit Hours

Required Introductory Course (3 credits)

POLSC 115 - U.S. Politics **Credits:** 3

Choose two courses (6 credits) from the following:

POLSC 135 - Introduction to Comparative Politics **Credits:** 3
POLSC 145 - World Politics **Credits:** 3
POLSC 155 - Introduction to Political Thought **Credits:** 3

Methods Course: 3 Credit Hours

POLSC 400 - Political Inquiry and Analysis **Credits:** 3

Society and Environment Requirements: 6 Credit Hours

Required Society and Environment Courses (6 Credit Hours)

POLSC 377 - Introduction to Public Policy **Credits:** 3
POLSC 250 - Environmental Political Thought: The Future of Food, Air, Water, and Soil **Credits:** 3
OR
POLSC 643 - Global Human Rights **Credits:** 3

Society and Environment Electives (3 Credit Hours)

Choose one of the following:

POLSC 372 - Ideologies: Their Origins and Impact **Credits:** 3
POLSC 545 - The Politics of Developing Nations **Credits:** 3
POLSC 601 - Topics in Political Science **Credits:** 3
POLSC 606 - Gender and Politics **Credits:** 3
POLSC 618 - Urban Politics **Credits:** 3
POLSC 667 - American Political Thought **Credits:** 3

Advanced Courses: 9 Credit Hours

To be taken after POLSC 400. Choose four courses (12 credits) at the 500 level or above in two of the following areas: Political Thought, American Government and Politics, International Relations, Comparative Government and Politics.

Major Elective Courses: 9 Credit Hours

Choose three courses (9 credits) of POLSC at any level, except for POLSC 350. Only 3 credit hours are allowed to be readings or problems. Only six credits are allowed to be internship.

BA Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

BA Natural and Quantitative Restricted Electives: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 12-25 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

A&S Common Degree Requirements are satisfied by upper level Political Science courses, and the BA Restricted Electives in Natural and Quantitative Sciences, Humanties and Fine Arts, and Second Language.

Bachelor of Science

Political Science (BS)

The major in political science acquaints students with political aspects of society and encourages them to develop a critical and imaginative perspective on public issues. The program in political science provides the foundation for a liberal education, including the intellectual skills of critical analysis, writing, and discussion. It also emphasizes the importance of continuing involvement in political activity and public affairs. These educational experiences prepare our students for a variety of careers in fields including public service, business, teaching, research, journalism, public relations, and administration.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for

institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except Political Science, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for POLSC) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course Credits: [3]
Global Perspectives Overlay, 1 course Credits: [3]
US Multicultural Overlay, 1 course Credits: [3]

Program

Statistics Requirement

If not met through K-State Core requirements, STAT 225 is required.

KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Introductory Courses: 9 Credit Hours

Required Introductory Course (3 credits)

POLSC 115 - U.S. Politics **Credits:** 3

Choose two courses (6 credits)

POLSC 115 - U.S. Politics **Credits:** 3
POLSC 145 - World Politics **Credits:** 3
POLSC 155 - Introduction to Political Thought **Credits:** 3

Methods Course: 3 Credit Hours

POLSC 400 - Political Inquiry and Analysis **Credits:** 3

Advanced Courses: 12 Credit Hours

To be taken after POLSC 400. Choose four courses (12 credits) at the 500 level or above in two of the following areas: Political Thought, American Government and Politics, International Relations, Comparitive Government and Politics

Advanced Courses Credits: 12

Major Elective Courses: 12 Credit Hours

Choose four courses (12 credits) of POLSC at any level, except for POLSC 350. Only 3 credit hours are allowed to be readings or problems. Only six credits are allowed to be internship.

BS Natural and Quantitative Restricted Electives: 12 Credit Hours

At least two (2) courses at the 300 level or above OR at any level with a prerequisite in the same discipline

Natural Science course: 3-5 Credit Hours

Quantitative course: 3-4 Credit Hours

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 6

Chose at least two (2) additional courses that are Natural Science, Quantitative, or a Social Science with MATH or STAT pre-req.

BS Arts, Humanities, and Social Sciences Requirements: 3 Credit Hours

3 credit hours in the following, at any level

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Free Electives: 25

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

A&S Common Degree Requirements are satisfied by upper level Political Science courses, and the BS Restricted Electives in Natural and Quantitative Sciences and Humanties and Fine Arts.

Political Science - Global Politics and Security (BS)

The major in political science acquaints students with political aspects of society and encourages them to develop a critical and imaginative perspective on public issues. The program in political science provides the foundation for a liberal education, including the intellectual skills of critical analysis, writing, and discussion. It also emphasizes the importance of continuing involvement in political activity and public affairs. These educational experiences prepare our students for a variety of careers in fields including public service, business, teaching, research, journalism, public relations, and administration.

The Global Politics and Security offers a special focus in foreign policy, international relations, and global security, is an ideal opportunity for students considering careers in these fields.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Politcial Science**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for POLSC**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Program

Statistics Requirement

If not met through K-State Core requirements, STAT 225 is required.

KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Introductory Courses: 9 Credit Hours

Required Introductory Courses (6 Credits)

POLSC 115 - U.S. Politics **Credits:** 3
POLSC 145 - World Politics **Credits:** 3

Choose one course (3 credits) from the following:

POLSC 135 - Introduction to Comparative Politics **Credits:** 3
POLSC 155 - Introduction to Political Thought **Credits:** 3

Methods Course: 3 Credit Hours

POLSC 400 - Political Inquiry and Analysis **Credits:** 3

Global Politics Requirements: 6 Credit Hours

Required Global Politics Courses (3 credits)

Required 3 credit course. NOTE: This course fulfills 3 credits toward Major Electives requirement

POLSC 343 - American Foreign Policy **Credits:** 3

Global Politics Electives (3 credits)

Choose one course from the following. NOTE: This course also fulfills 3 credits of either Advanced Course or Major Elective requirement.

POLSC 341 - Politics of the World Economy **Credits:** 3

POLSC 540 - Global Security Threats **Credits:** 3
POLSC 545 - The Politics of Developing Nations **Credits:** 3
POLSC 549 - International Defense Strategies **Credits:** 3
POLSC 638 - Ethnic Conflict **Credits:** 3
POLSC 642 - International Conflict **Credits:** 3
POLSC 653 - International Politics of the Middle East **Credits:** 3

Advanced Courses: 9 Credit Hours

To be taken after POLSC 400. Choose four courses (12 credits) at the 500 level or above in two of the following areas: Political Thought, American Government and Politics, International Relations, Comparative Government and Politics.

Major Elective Courses: 9 Credit Hours

Choose three courses (9 credits) of POLSC at any level, except for POLSC 350. Only 3 credit hours are allowed to be readings or problems. Only 6 credits are allowed to be internship.

BS Natural and Quantitative Requirements: 12-15 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course: 3-5 Credit Hours

Quantitative course: 3-4 Credit Hours

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 6

Chose at least two (2) additional courses that are Natural Science, Quantitative, or a Social Science with MATH or STAT pre-req.

BS Arts, Humanities, and Social Sciences Requirements: 3 Credit Hours

3 credit hours of Fine Arts, Humanities, or Social Sciences (non-quantitative) at any level (any course or combination of courses). See College catalog page for course lists.

Non-Quantitative Social Science: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: 22-25

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

A&S Common Degree Requirements are satisfied by upper level Political Science courses, and the BS Restricted Electives in Natural and Quantitative Sciences and Humanties and Fine Arts

Political Science - Law (BS)

The major in political science acquaints students with political aspects of society and encourages them to develop a critical and imaginative perspective on public issues. The program in political science provides the foundation for a liberal education, including the intellectual skills of critical analysis, writing, and discussion. It also emphasizes the importance of continuing involvement in political activity and public affairs. These educational experiences prepare our students for a variety of careers in fields including public service, business, teaching, research, journalism, public relations, and administration.

The Law Track offers a special focus on the judiciary, legal reasoning, and is an ideal opportunity for students considering law school.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Poltical Science**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for POLSC**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Program

Statistics Requirement

If not met through K-State Core requirements, STAT 225 is required.

KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Introductory Courses: 9 Credit Hours

Required Introductory Course (3 credits)

POLSC 115 - U.S. Politics **Credits:** 3

Choose two courses (6 credits) from the following:

POLSC 135 - Introduction to Comparative Politics **Credits:** 3
POLSC 145 - World Politics **Credits:** 3
POLSC 155 - Introduction to Political Thought **Credits:** 3

Methods Course: 3 Credit Hours

POLSC 400 - Political Inquiry and Analysis **Credits:** 3

Law Requirements: 6 Credit Hours

Choose one course (3 credits):
POLSC 614 - Constitutional Law **Credits:** 3
OR
POLSC 615 - The Constitution, Civil Rights and Civil Liberties **Credits:** 3
Choose one course (3 credits) NOTE: This course should also count as an Advanced Course. If not already taken for above requirement POLSC 614 or POLSC 615.
POLSC 607 - Administrative Law **Credits:** 3
POLSC 612 - The Judicial Process **Credits:** 3
POLSC 647 - International Law **Credits:** 3
POLSC 670 - Law, Politics, and Literature **Credits:** 3

Required Law Track Courses (3 credit hours)

POLSC 614 - Constitutional Law **Credits:** 3
OR
POLSC 615 - The Constitution, Civil Rights and Civil Liberties **Credits:** 3

Law Track Electives (3 credit hours)

Choose one of the following.

May choose POLSC 614 or POLSC 615 only if not taken above for credit as Required Courses

POLSC 607 - Administrative Law **Credits:** 3
POLSC 612 - The Judicial Process **Credits:** 3
POLSC 614 - Constitutional Law **Credits:** 3
POLSC 615 - The Constitution, Civil Rights and Civil Liberties **Credits:** 3
POLSC 647 - International Law **Credits:** 3
POLSC 670 - Law, Politics, and Literature **Credits:** 3

Advanced Courses: 9 Credit Hours

To be taken after POLSC 400. Choose three courses (9 credits) at the 500 level or above with at least one course from one of following areas: Political Thought, International Relations, Comparative Government and Politics. One course may be from American Government & Politics.

Major Electives: 9 Credit Hours

Choose four courses (12 credits) from POLSC at any level.

BS Natural and Quantitative Restricted Electives: 12-15 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course: 3-5 Credit Hours

Quantitative course: 3-4 Credit Hours

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 6

Chose at least two (2) additional courses that are Natural Science, Quantitative, or a Social Science with MATH or STAT pre-req.

BS Arts, Humanities, and Social Sciences Restricted Electives: 3 Credit Hours

3 credit hours of Fine Arts or Humanities at any level (any course or combination of courses). See College catalog page for course lists.

Free Electives: 22-25

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

A&S Common Degree Requirements are satisfied by upper level Political Science courses, and the BS Restricted Electives in Natural and Quantitative Sciences and Humanties and Fine Arts.

Political Science - Politics of the Global South (BS)

The major in political science acquaints students with political aspects of society and encourages them to develop a critical and imaginative perspective on public issues. The program in political science provides the foundation for a liberal education, including the intellectual skills of critical analysis, writing, and discussion. It also emphasizes the importance of continuing involvement in political activity and public affairs. These educational experiences prepare our students for a variety of careers in fields including public service, business, teaching, research, journalism, public relations, and administration.

The Politics of the Global South track is designed for students interested in careers that impact or involve the non-Western world and knowledge of African, Asian, Latin American, and Middle Eastern countries.

Kansas State University Core: 34-36 Credit Hours

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The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except POLSC**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for POLSC**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Program

Statistics Requirement

If not met through K-State Core requirements, STAT 225 is required.

KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Introductory Courses: 9 Credit Hours

POLSC 115 - U.S. Politics **Credits:** 3
POLSC 135 - Introduction to Comparative Politics **Credits:** 3
POLSC 145 - World Politics **Credits:** 3
OR
POLSC 155 - Introduction to Political Thought **Credits:** 3

Methods Course: 3 Credit Hours

POLSC 400 - Political Inquiry and Analysis **Credits:** 3

Politics of the Global South Requirements: 6 Credit Hours

Required Course: 3 Credit Hours

POLSC 526 - Comparative Political Institutions **Credits:** 3
OR
POLSC 545 - The Politics of Developing Nations **Credits:** 3

Electives: 3 Credit Hours

Choose one 3 credit hour course.

POLSC 526 and POLSC 545 may only be counted here as an elective if not taken to fulfill another requirement

POLSC 343 - American Foreign Policy **Credits:** 3
POLSC 388 - Latin American Politics **Credits:** 3
POLSC 390 - Middle East Politics **Credits:** 3
POLSC 524 - Political Islam **Credits:** 3
POLSC 526 - Comparative Political Institutions **Credits:** 3
POLSC 606 - Gender and Politics **Credits:** 3
POLSC 625 - East Asian Politics **Credits:** 3
POLSC 626 - African Politics **Credits:** 3
POLSC 653 - International Politics of the Middle East **Credits:** 3

POLSC 654 - International Politics of Africa **Credits:** 3
POLSC 655 - International Politics of Latin America **Credits:** 3

Advanced Courses: 9 Credit Hours

To be taken after POLSC 400. Choose three courses (9 credits) at the 500 level or above in at least one of the following areas: Political Thought, American Government and Politics, or International Relations. One or more courses may also be from Comparative Government and Politics.

Major Elective Courses: 9 Credit Hours

Choose three courses (9 credits) of POLSC at any level, except for POLSC 350. Only 3 credit hours are allowed to be readings or problems. Only six credits are allowed to be internship.

BS Natural and Quantitative Restricted Electives: 12-15 Credit Hours

One course in each of the following, with at least two courses must be at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course: 3-5 Credit Hours

Quantitative course: 3-4 Credit Hours

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 6

Chose at least two (2) additional courses that are Natural Science, Quantitative, or a Social Science with MATH or STAT pre-req.

BS Arts, Humanities, and Social Sciences Restricted Electives: 3 Credit Hours

3 credit hours of Fine Arts or Humanities at any level (any course or combination of courses). See College catalog page for course lists.

Free Electives: 19-22

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

A&S Common Degree Requirements are satisfied by upper level Political Science courses, and the BS Restricted Electives in Natural and Quantitative Sciences and Humanties and Fine Arts.

Political Science - Public Service (BS)

The major in political science acquaints students with political aspects of society and encourages them to develop a critical and imaginative perspective on public issues. The program in political science provides the foundation for a liberal education, including the intellectual skills of critical analysis, writing, and discussion. It also emphasizes the importance of continuing

involvement in political activity and public affairs. These educational experiences prepare our students for a variety of careers in fields including public service, business, teaching, research, journalism, public relations, and administration.

The Public Service track is designed for students interested in an administrative position in the public or nonprofit sector.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Political Science**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for POLSC**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Program

Statistics Requirement

If not met through K-State Core requirements, STAT 225 is required.

KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Introductory Courses: 9 Credit Hours

Required Introductory Courses (3 credits)

POLSC 115 - U.S. Politics **Credits:** 3

Choose two courses (6 credits) from the following:

POLSC 135 - Introduction to Comparative Politics **Credits:** 3
POLSC 145 - World Politics **Credits:** 3
POLSC 155 - Introduction to Political Thought **Credits:** 3

Methods Course: 3 Credit Hours

POLSC 400 - Political Inquiry and Analysis **Credits:** 3

Public Service Requirements:

Required Public Service Courses (6 credits)

Both courses are required.

POLSC 307 - Introduction to Public Administration **Credits:** 3
POLSC 377 - Introduction to Public Policy **Credits:** 3

Public Service Electives (3 credits)

Choose one course from the following.

POLSC 607 - Administrative Law **Credits:** 3
POLSC 618 - Urban Politics **Credits:** 3
POLSC 620 - State and Local Government **Credits:** 3

Advanced Courses: 9 Credit Hours

To be taken after POLSC 400. Choose three courses (9 credits) at the 500 level or above with at least one course from one of following areas: Political Thought, International Relations, Comparative Government and Politics. One course may be from American Government & Politics.

Students pursuing an accelerated degree with the MPA program should, for one of their Advanced Courses, choose one course (3 credits) from:

POLSC 700 - Research Methods in Political Science **Credits:** 3

POLSC 702 - Public Administration and Society **Credits:** 3
POLSC 708 - Public Personnel Administration **Credits:** 3
POLSC 710 - Policy Analysis and Evaluation **Credits:** 3
POLSC 735 - Public Organization Theory **Credits:** 3
POLSC 737 - Public Budgeting **Credits:** 3

Major Electives: 6 Credit Hours

Choose two courses (6 credits) from POLSC at any level.

BS Natural and Quantitative Restricted Electives: 12-15 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course: 3-5 Credit Hours

Quantitative course: 3-4 Credit Hours

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 6

Chose at least two (2) additional courses that are Natural Science, Quantitative, or a Social Science with MATH or STAT pre-req.

BS Arts, Humanities, and Social Sciences Requirements: 3 Credit Hours

3 credit hours of Fine Arts or Humanities at any level (any course or combination of courses). See College catalog page for course lists.

Free Electives: 22-25

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Required for Graduation: 120

A&S Common Degree Requirements are satisfied by upper level Political Science courses, and the BS Restricted Electives in Natural and Quantitative Sciences and Humanties and Fine Arts.

Political Science - Society and Environment (BS)

The major in political science acquaints students with political aspects of society and encourages them to develop a critical and imaginative perspective on public issues. The program in political science provides the foundation for a liberal education, including the intellectual skills of critical analysis, writing, and discussion. It also emphasizes the importance of continuing involvement in political activity and public affairs. These educational experiences prepare our students for a variety of careers in fields including public service, business, teaching, research, journalism, public relations, and administration.

The Society and Environment track is designed for students interested in social and environmental problem solving, agricultural and food-related private business, and non-profit and political advocacy groups.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except Polticial Science, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for POLSC) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course Credits: [3]
Global Perspectives Overlay, 1 course Credits: [3]
US Multicultural Overlay, 1 course Credits: [3]

Program

Statistics Requirement

If not met through K-State Core requirements, STAT 225 is required.

KSC-030

STAT 225 - Introduction to Statistics **Credits:** 3

Introductory Courses: 9 Credit Hours

Required Introductory Course (3 Credits)

POLSC 115 - U.S. Politics **Credits:** 3

Choose two courses (6 credits) from the following:

POLSC 135 - Introduction to Comparative Politics **Credits:** 3
POLSC 145 - World Politics **Credits:** 3
POLSC 155 - Introduction to Political Thought **Credits:** 3

Methods Course: 3 Credit Hours

POLSC 400 - Political Inquiry and Analysis **Credits:** 3

Society and Environment Requirements: 9 Credit Hours

Required Society and Environment Courses (6 Credit Hours)

POLSC 377 - Introduction to Public Policy **Credits:** 3
POLSC 250 - Environmental Political Thought: The Future of Food, Air, Water, and Soil **Credits:** 3
OR
POLSC 643 - Global Human Rights **Credits:** 3

Society and Environment Electives (3 Credit Hours)

Choose one of the following:

POLSC 372 - Ideologies: Their Origins and Impact **Credits:** 3
POLSC 545 - The Politics of Developing Nations **Credits:** 3
POLSC 601 - Topics in Political Science **Credits:** 3
POLSC 606 - Gender and Politics **Credits:** 3
POLSC 618 - Urban Politics **Credits:** 3
POLSC 667 - American Political Thought **Credits:** 3

Advanced Courses: 9 Credit Hours

To be taken after POLSC 400. Choose four courses (12 credits) at the 500 level or above in two of the following areas: Political Thought, American Government and Politics, International Relations, Comparative Government and Politics.

Advanced courses: Credits: 12

Major Elective Courses: 6 Credit Hours

Choose three courses (9 credits) of POLSC at any level, except for POLSC 350. Only 3 credit hours are allowed to be readings or problems. Only six credits are allowed to be internship.

Major Elective Courses: **Credits:** 9

BS Natural and Quantitative Restricted Electives: 12-15 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course: 3-5 Credit Hours

Quantitative course: 3-4 Credit Hours

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 6

Choose at least two (2) additional courses that are Natural Science, Quantitative, or a Social Science with MATH or STAT pre-req.

BS Arts and Humanities Restricted Electives: 3 Credit Hours

3 credit hours of Fine Arts or Humanities at any level (any course or combination of courses). See College catalog page for course lists.

Free Electives: 22-25

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

A&S Common Degree Requirements are satisfied by upper level Political Science courses, and the BS Restricted Electives in Natural and Quantitative Sciences and Humanities and Fine Arts.

Minor

African Studies Minor

The African Studies minor is designed to provide students with knowledge of and appreciation for African History, society and natural environment. The African Studies minor will provide students the opportunity to understand and experience this diverse region through courses that offer knowledge, the necessary language skills and first hand experience in various parts of Africa. The minor will have a special focus on African agriculture, health, environment from various perspectives.

Students must have a minimum GPA of 2.0 to qualify for the minor. A minimum of 21 credit hours of designated course work with a grade of C or above for fall courses is needed to complete the minor.

Required courses:

AFRI 501 - Seminar I **Credits:** 3
AFRI 502 - Seminar II **Credits:** 3
ANTH 509 - Cultures of Africa **Credits:** 3
SWAH 101 - Swahili I **Credits:** 4
SWAH 102 - Swahili II **Credits:** 4
or
Two semesters of any indigenous African language or French

Study Abroad program or equivalent:

African Study Abroad (AFRI 400) will provide students the opportunity to apply their knowledge of an African language and to learn first hand various African societies, cultures, farming systems, environment, health and other issues related to their host country.

This course will be taught by various faculty affiliates in the African Studies Center and will involve African collaborators in the host countries who will offer lectures and coordinate site visits.

Other African experiences can be taken into account for credit with approval from their African Studies advisor. The course will be coordinated in collaboration with the Study Abroad program at K-State.

AFRI 400 - African Study Abroad **Credits:** 1-4

Recommended course for the Minor:

Recommended Electives for GE-College of Agriculture

AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
AGEC 710 - Comparative Food and Agriculture Systems **Credits:** 3
AGRON 335 - Environmental Quality **Credits:** 3
HORT 256 - Human Dimensions of Horticulture **Credits:** 3

Recommended Electives for GE-College of Arts and Sciences

ANTH 210 - Introduction to Cultural Anthropology, Honors **Credits:** 3
ANTH 720 - Field Methods in Linguistics **Credits:** 3
BIOL 263 - Ecology of Environmental Problems **Credits:** 3
BIOL 330 - Public Health Biology **Credits:** 3
BIOL 697 - Topics in Biology **Credits:** 1-6 (African Ecology and Conservation)
ECON 527 - Environmental Economics **Credits:** 3
ECON 681 - International Trade **Credits:** 3
ECON 682 - Development Economics **Credits:** 3
ECON 688 - Health Economics **Credits:** 3
FREN 721 - Francophone Literature and Culture **Credits:** 3 (with emphasis on Africa)
GEOG 200 - Human Geography **Credits:** 3
GEOG 121 - Introductory Physical Geography: Earth Systems Science **Credits:** 3
GEOG 340 - Natural Resources **Credits:** 3
GEOG 780 - Cultural Geography **Credits:** 3
GEOL 506 - Environmental Studies **Credits:** 3

HIST 539 - African-American History **Credits:** 3
POLSC 145 - World Politics **Credits:** 3
POLSC 135 - Introduction to Comparative Politics **Credits:** 3
POLSC 626 - African Politics **Credits:** 3
POLSC 654 - International Politics of Africa **Credits:** 3
SOCIO 507 - International Development and Social Change **Credits:** 3
SOCIO 633 - Gender, Power, and Development **Credits:** 3

Recommended Electives for GE-College of Health and Human Sciences

IHS 310 - Foundations of Integrative Human Sciences **Credits:** 3
FNDH 400 - Human Nutrition **Credits:** 3
FNDH 599 - Topics in Human Nutrition **Credits:** 1-3
FNDH 600 - Public Health Nutrition **Credits:** 3
FNDH 702 - Nutrition in Developing Countries **Credits:** 3
HDFS 110 - Introduction to Human Development **Credits:** 3

Total credit hours: (minimum of 21)

Middle East Studies Minor

General Requirements:

The minor will require 20 credit hours from the designated courses including the language credits. It is required that students maintain a good academic standing with a **grade of C** or above in these courses.

Introductory Course Requirement:

Students must take an introductory course (3 Credits) related to the minor.

POLSC 135 - Introduction to Comparative Politics **Credits:** 3

HIST 111 - World History to 1450 **Credits:** 3
Or
HIST 112 - World History From 1450 **Credits:** 3

COMM 480 - Intercultural Communication **Credits:** 3

Language Requirement:

Students are required to take at least 8 credit hours of language listed below.

ARAB 101 - Arabic I **Credits:** 4
ARAB 102 - Arabic II **Credits:** 4
Note 1: Arab 101 and Arab 102 are 4 credit hour courses. It is strongly recommended that students also take additional courses in language (e.g. ARAB 201 and ARAB 301) for a complete cultural immersion in the Middle Eastern culture.

Note 2: A student may substitute previous college level course work in Turkish, Persian, or Hebrew upon approval. A native speaker of these languages may be exempt from the language requirements and can fulfill the remaining requirements for total credits by taking approved electives or independent studies. In addition, a student may fulfill language requirements in a study abroad program if credit hours are offered at college level and if these courses are approved by Kansas State University.

Students must select one course from each section and complete a minimum of 9 credits of core courses from the following three categories. To fulfill the minor requirements, each student has to choose one course from each section below:

Political Science Courses

POLSC 390 - Middle East Politics **Credits:** 3
POLSC 524 - Political Islam **Credits:** 3
POLSC 653 - International Politics of the Middle East **Credits:** 3

History Courses

HIST 598 - Topics in Non-Western History **Credits:** 1-3
HIST 598 History of Islam **Credits:** 1-3

Communication Studies, Economics, Philosophy, Modern Languages

ARAB 201 - Arabic III **Credits:** 5
ARAB 301 - Arabic IV **Credits:** 5
ARAB 540 - Special Studies in Arabic **Credits:** 1-18
COMM 450 - Special Studies in Human Discourse **Credits:** 3
ECON 536 - Comparative Economics **Credits:** 3
PHILO 337 - Religious Freedom and Democracy **Credits:** 3

Optional Elective:

Note: Students can replace one course (3 credit) from the "core course requirements" section conditional on the approval of the director of the Middle East Studies Minor:

AMETH 354 - Asian American Perspectives **Credits:** 3
AMETH 450 - Comparative Ethnic Studies **Credits:** 3
ANTH 200 - Introduction to Cultural Anthropology **Credits:** 3
Or
ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3

ANTH 210 - Introduction to Cultural Anthropology, Honors **Credits:** 3
ANTH 314 - Introduction to the World's Religions **Credits:** 3
ANTH 616 - Anthropology of the Future: Apocalypse, Prophecy, and Hope **Credits:** 3
ART 195 - Survey of Western Art History I **Credits:** 3
ECON 536 - Comparative Economics **Credits:** 3
ECON 682 - Development Economics **Credits:** 3
GEOG 340 - Natural Resources **Credits:** 3

HIST 567 - Europe in the Middle Ages **Credits:** 3
HIST 597 - Topics in European History **Credits:** 1-3
POLSC 341 - Politics of the World Economy **Credits:** 3
POLSC 343 - American Foreign Policy **Credits:** 3
POLSC 526 - Comparative Political Institutions **Credits:** 3
POLSC 540 - Global Security Threats **Credits:** 3
POLSC 545 - The Politics of Developing Nations **Credits:** 3
POLSC 601 - Topics in Political Science **Credits:** 3
POLSC 626 - African Politics **Credits:** 3
POLSC 638 - Ethnic Conflict **Credits:** 3
POLSC 643 - Global Human Rights **Credits:** 3
POLSC 654 - International Politics of Africa **Credits:** 3
POLSC 675 - Religion and Politics **Credits:** 3
SOCIO 363 - Global Problems **Credits:** 3
SOCIO 507 - International Development and Social Change **Credits:** 3
SOCIO 633 - Gender, Power, and Development **Credits:** 3

Political Science Minor

Core Courses (6 credits)

Students must take two of the following four courses:

POLSC 115 - U.S. Politics **Credits:** 3
POLSC 135 - Introduction to Comparative Politics **Credits:** 3
POLSC 145 - World Politics **Credits:** 3
POLSC 155 - Introduction to Political Thought **Credits:** 3

Electives (12 credits of POLSC courses)

Two courses must be at the 500 level or above.

Total credit hours: (18)

Undergraduate Certificate

Primary Texts Undergraduate Certificate

Studying primary texts (original works) provides an opportunity to take part in a conversation with some of the best thinkers humankind has produced. Reading and discussing primary texts or original works in philosophy, politics, literature, and the sciences encourages critical thinking, and there is a growing acknowledgment among employers that this type of training develops lifelong learners and future leaders. The program gives students who want to pursue graduate education early experience in grappling with original works.

The certificate is an 18-hour program of study that students can tailor to their needs. Students must take the Primary Texts core course, preferably in their Junior or Senior year. At least nine credit hours must be at the 400 level or above. Selected courses must cover at least two academic disciplines. Transfer courses that can be documented to have substantial primary text content

may be accepted, but at least half of the courses must be completed at K-State. Students will complete a capstone paper in the core course, and have a minimum 2.75 cumulative GPA in the certificate at the time they graduate.

The Primary Texts core course can be taken by Honor students for Honors credit. Consult with the directors of the Primary Texts and Honors programs on additional courses that may count in both programs.

Students should notify the director of their interest in the program as soon as possible in their college career. The director will assist them with enrollment. Students who believe they have fulfilled part or all of the requirements should contact the director prior to enrolling in the program. A description of the program, a list of Primary Texts courses, and information on the capstone paper requirement can be found on the certificate website.

www.k-state.edu/artsci/primary

Program Requirements

Transfer courses that can be documented to have substantial primary texts content may be accepted, but at least half of the courses (9 credit hours) must be completed at K-State.

Students must complete 9 credit hours at the 400 level or above.

Selected courses must cover at least two academic disciplines.

Students must earn a minimum of 2.75 Cummulate GPA in the Certificate.

Required Course - 3 Credit Hours

Students must complete the Primary Texts Seminar

DAS 420 - Primary Texts Seminar **Credits:** 3
OR
POLSC 420 - Primary Texts Seminar **Credits:** 3

Additional Primary Text Requirements - 15 Credit Hours

Students must complete 6 credit hours at the 400 level or above (excluding DAS 420 and POLSC 420)

Selected courses must cover at least two academic disciplines.

Select 15 credit hours from the Primary Text Approved Course list located on the Primary Text Certificate website

Primary Texts Certificate

Total Credit Hours - 18 Credit Hours

Other Program Choices

Political Science (BA) Academic Degree Map

First Year	Hours	K-State Core	

Semester 1		
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
ENGL 100 - Expository Writing I	3	**KSC 010**
POLSC 115 - U.S. Politics	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Natural and Physical Sciences	4-5	**KSC 040**
Total Credits: 14		
Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
STAT 225 - Introduction to Statistics	3	**KSC 030**
POLSC 135 - Introduction to Comparative Politics (Ethical Reasoning Overlay)	3	
POLSC 145 - World Politics (Global Perspectives Overlay)	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
POLSC 400 - Political Inquiry and Analysis	3	
First Foreign Language - Level I	4	**KSC 060**
Social and Behavioral Sciences Requirement (Second Subject Area)	3	**KSC 050**
Free Elective	3	
Total Credits: 16		

Semester 2			
POLSC 500+ - subject area 1	3		
First Foreign Language - Level II	4		
POLSC Elective	3		
Fine Arts Restrictive Elective	3		
Free Elective	3		
Total Credits: 16			
Third Year			
Semester 1			
POLSC 500+ - subject area 1	3		
Outside concentration	3		
Free Elective	3		
First Foreign Language - Level III or Second Foreign Language - Level I	3-4		
Natural/Quantitative Restrictive Elective	3		
Total Credits: 15			
Semester 2			
POLSC Elective	3		
Outside concentration	3		
First Foreign Language - Level IV or Second Foreign Language - Level II	3-4		
A&S Additional Natural/Quantitative/Quantitative Social Sciences BA Course	3		
POLSC 500+ - subject area 2	3		
Total Credits: 15-16			

Fourth Year			
Semester 1			
POLSC 500+ - subject area 2	3		
POLSC Elective	3		
A&S Humanities BA Course	3		
A&S Non-Quantitative Social Sciences BA Course	3		
Outside Concentration	3		
Total Credits: 15			
Semester 2			
POLSC Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective or Outside Concentration	3		
Arts and Humanities Requirement	2	**KSC 060**	
Total Credits: 12-14			
Total Program Hours: 120			

Political Science (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		

POLSC 115 - U.S. Politics	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Natural & Physical Sciences Requirement	4 or 5	**KSC 040**
K-State Core Eligible		
Total Credits: 14		
Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
STAT 225 - Introduction to Statistics	3	**KSC 030**
POLSC 135 - Introduction to Comparative Politics	3	
Global Perspectives Overlay; Required POLSC Introductory Course (2 of 3)		
Social and Behavioral Requirement	3	**KSC 050**
POLSC 155 - Introduction to Political Thought	3	
Ethical Reasoning Overlay; Required POLSC Introductory Course (2 of 3)		
Social and Behavioral Requirement	3	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
POLSC 400 - Political Inquiry and Analysis	3	
Natural and Quantitative Requirements	3-4	
Social and Behavioral Requirement	3	

Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Semester 2			
POLSC 500 level or higher	3		
Free Elective	3		
Natural and Quantitative Requirements	3-5		
Arts & Humanities Requirement	3	**KSC 060**	
POLSC 360 - Race, Ethnicity, and Politics	3		
US Multicultural Overlay			
Total Credits: 15			
Third Year			
Semester 1			
POLSC 500 level or higher	3		
Outside Concentration			
POLSC Elective	3		
Natural and Quantitative Requirement - (3 of 4).	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
Required POLSC Advanced Course (3 of 4)	3		
POLSC Elective	3		
Outside Concentration	3		

Natural and Quantitative Requirement	3		
Free Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
POLSC 500 level or higher	3		
Free Elective	3		
Arts & Humanities Restrictive Elective	3		
Non-Quantitative Social Sciences Restrictive Elective	3		
Outside Concentration	3		
Total Credits: 15			
Semester 2			
POLSC Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	1		
Total credits: 16			
Total Program Hours: 120			

Political Science - Global Politics and Security (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Natural and Physical Sciences Requirement	4-5	**KSC 040**
POLSC 115 - U.S. Politics (Social/Behavioral Restrictive Elective)	3	**KSC 050**
Total Credits: 14		
Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
STAT 225 - Introduction to Statistics	3	**KSC 030**
POLSC 145 - World Politics	3	
POLSC 155 - Introduction to Political Thought (Ethical Reasoning Overlay)	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
POLSC 400 - Political Inquiry and Analysis	3	
First Foreign Language - Level I	4	**KSC 060**
Social and Behavioral Sciences Requirement (Second Subject Era)	3	**KSC 050**
Free Elective	3	**KSC 070**

Total Credits: 16			
Semester 2			
POLSC 343 - American Foreign Policy	3		
First Foreign Language - Level II	4		
Fine Arts Restrictive Elective	3		
Free Elective	3		
POLSC 360 - Race, Ethnicity, and Politics (US Multicultural Overlay)	3		
Total Credits: 16			
Third Year			
Semester 1			
Outside concentration	3		
POLSC 545 - The Politics of Developing Nations (Global Perspectives Overlay)	3		
First Foreign Language -Level III or Second Foreign Language - Level I	3-4		
Natural/Quantitative Restrictive Elective	3		
Total Credits: 15			
Semester 2			
POLSC Elective	3		
Outside concentration	3		
First Foreign Language - Level IV or Second Foreign Language - Level II	3-4		
Natural/Quantitative/Quantitative Social Sciences Restrictive Elective	3		
POLSC 500+ - subject area 2	3		
Total Credits: 15			

Fourth Year			
Semester 1			
POLSC 500+ - subject area 2	3		
POLSC Elective	3		
Humanities Restrictive Elective	3		
Non-Quantitative Social Sciences Restrictive Elective	3		
Outside concentration	3		
Total Credits: 15			
Semester 2			
POLSC Elective	3		
Free Elective	3		
Free Elective	3		
Outside concentration	3		
Arts/Humanities Restrictive Elective	2	**KSC 060**	
Total Credits: 14			
Total Program Hours: 120			

Political Science - Global Politics and Security (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		

POLSC 115 - U.S. Politics	3	**KSC 050**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Natural & Physical Sciences Rquirement	4-5	**KSC 040**	
Total Credits: 14			
Semester 2			
COMM 106 - Public Speaking I	3	**KSC 020**	
STAT 225 - Introduction to Statistics	3	**KSC 030**	
POLSC 145 - World Politics	3		
Arts & Humanities Requirement	3	**KSC 060**	
POLSC 155 - Introduction to Political Thought - Ethical Reasoning Overlay	3		
Total Credits: 15			
Second Year			
Semester 1			
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**	
ENGL 210 - Honors English	3	**KSC 010**	
POLSC 400 - Political Inquiry and Analysis	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Quantitative Course Restrictive Elective	3-4		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 15			
Semester 2			
POLSC 343 - American Foreign Policy	3		

Free Elective	3		
Natural/Quantitative Restrictive Elective	3-5		
Arts & Humanities Requirement	3	**KSC 060**	
POLSC 360 - Race, Ethnicity, and Politics - US Multicultural Overlay	3		
Total Credits: 15			
Third Year			
Semester 1			
POLSC 500+	3		
Outside Concentration	3		
POLSC Elective	3		
Natural Science, Quantitative, or Social Science w/MATH or STAT prereq	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
POLSC 500+ - Global Perspecives Overlay Recommended	3		
POLSC Elective	3		
Outside Concentration	3		
Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq	3		
Free Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			

POLSC 500+	3		
Free Elective	3		
Arts & Humanities Restrictive Elective	3		
Non-Quantitative Social Sciences Restrictive Elective	3		
Outside Concentration	3		
Total Credits: 15			
Semester 2			
POLSC 500+	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	1		
Total Credits: 16			
Total Program Hours: 120			

Political Science - Law (BA) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
POLSC 115 - U.S. Politics	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	

Natural and Physical Science Requirement	4-5	**KSC 040**
Total Credits: 14		
Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
STAT 225 - Introduction to Statistics	3	**KSC 030**
POLSC 135 - Introduction to Comparative Politics	3	**KSC 050**
POLSC 155 - Introduction to Political Thought	3	
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
POLSC 400 - Political Inquiry and Analysis	3	
Natural and Quantitative Requirements	3-4	
Social and Behavioral Science Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
POLSC 500+ (subject area Law Requirement 1)	3	
Free Elective	3	
Natural and Quantitative Requirements	3-5	

Arts and Humanities Requirement	3	**KSC 060**
POLSC 360 - Race, Ethnicity, and Politics	3	
Total Credits: 15		
Third Year		
Semester 1		
POLSC 500+ (subject area 1)	3	
Outside Concentration	3	
POLSC Elective	3	
Natural and Quantitative Requirements	3	
Free Elective	3	
Total Credits: 15		
Semester 2		
POLSC 500+ (subject area 2)	3	
POLSC Elective	3	
Outside Concentration	3	
Additional Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq	3	
Free Elective	3	
Total Credits: 15		
Fourth Year		
Semester 1		
POLSC 500+ (subject area 2)	3	
Free Elective	3	

Arts & Humanities Restrictive Elective	3		
Non-Quantitative Social Sciences Restrictive Elective	3		
Outside Concentration	3		
Total Credits: 15			
Semester 2			
POLSC Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	1		
Total Credits: 16			
Total Program Hours: 120			

Political Science - Law (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
POLSC 115 - U.S. Politics	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Natural & Physical Sciences Requirement	4-5	**KSC 040**	
Total Credits: 14			

Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
STAT 225 - Introduction to Statistics	3	**KSC 030**
POLSC 135 - Introduction to Comparative Politics	3	**KSC 050**
Global Perspectives Overlay		
POLSC 155 - Introduction to Political Thought	3	
Ethical Reasoning Overlay		
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
POLSC 400 - Political Inquiry and Analysis	3	
Natural and Quantitative Requirements	3-4	
Social & Behavioral Restrictive Elective	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
POLSC 500 level or higher	3	
Free Elective	3	
Natural and Quantitative Requirements	3 -5	

Arts & Humanities Requirement	3	**KSC 060**
POLSC 360 - Race, Ethnicity, and Politics	3	
US Multicultural Overlay		
Total Credits: 15		
Third Year		
Semester 1		
POLSC 500 level or higher	3	
Outside Concentration	3	
POLSC Elective	3	
Natural and Quantitative Requirements	3	
Free Elective	3	
Total Credits: 15		
Semester 2		
POLSC 500 level or higher	3	
POLSC Elective	3	
Outside Concentration	3	
Additional Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq	3	
Free Elective	3	
Total Credits: 15		
Fourth Year		
Semester 1		
POLSC 500 level or higher	3	

Free Elective	3		
Arts & Humanities Restrictive Elective	3		
Non-Quantitative Social Sciences Restrictive Elective	3		
Outside Concentration	3		
Total Credits: 15			
Semester 2			
POLSC Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	1		
Total Credits: 16			
Total Program Hours: 120			

Political Science - Politics of the Global South (BA) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
POLSC 115 - U.S. Politics	3	**KSC 050**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Natural & Physical Sciences Requirement	4-5	**KSC 040**	

Total Credits: 14		
Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
STAT 225 - Introduction to Statistics	3	**KSC 030**
POLSC 135 - Introduction to Comparative Politics - Global Perspectives Overlay	3	
POLSC 155 - Introduction to Political Thought - Ethical Reasoning Overlay	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
POLSC 400 - Political Inquiry and Analysis	3	
First Foreign Language - Level 1	3	**KSC 060**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Free Elective	3	
Total Credits: 15		
Semester 2		
POLSC 343 - American Foreign Policy	3	
First Foreign Language - Level II	4	
Free Elective	3	
Fine Arts Restrictive Elective	3	

POLSC 360 - Race, Ethnicity, and Politics - US Multicultural Overlay	3		
Total Credits: 16			
Third Year			
Semester 1			
POLSC 545 - The Politics of Developing Nations - Global Perspectives Overlay	3		
Outside Concentration	3		
Free Elective	2		
First Foreign Language - Level III or Second Foreign Language - Level 1	3-4		
Natural/Quantitative Restrictive Elective	3		
Total Credits: 14			
Semester 2			
Global South Required Elective	3		
Outside Concentration	3		
First Foreign lanuage - Level IV or Second Foreign Language - level II	4		
Natural/Quantitative/Quantitative Social Sciences	3		
Global South Elective Course	3		
Total Credits: 16			
Fourth Year			
Semester 1			
POLSC 500+ - subject area 2	3		
POLSC Elective	3		
Humanities Restrictive Elective	3		

Non-Quantitative Social Science Restrictive Elective	3		
Outside Concentration	3		
Total Credits: 15			
Semester 2			
POLSC Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	2		
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 14			
Total Program Hours: 120			

Political Science - Politics of the Global South (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semeser 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
POLSC 115 - U.S. Politics	3	**KSC 050**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Natural & Physical Sciences Requirement	4-5	**KSC 040**	
Total Credits: 14			
Semester 2			

COMM 106 - Public Speaking I	3	**KSC 020**	
STAT 225 - Introduction to Statistics	3	**KSC 030**	
POLSC 135 - Introduction to Comparative Politics	3		
Global Perspectives Overlay			
Arts & Humanities Requirement	3	**KSC 060**	
POLSC 155 - Introduction to Political Thought	3		
Ethical Reasoning Overlay			
Total Credits: 15			
Second Year			
Semester 1			
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**	
ENGL 210 - Honors English	3	**KSC 010**	
POLSC 400 - Political Inquiry and Analysis	3		
Natural/Quantitative Restrictive Elective	3-4		
Social & Behavioral Requirement	3	**KSC 050**	
Free elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Semester 2			
POLSC 343 - American Foreign Policy	3		
Arts & Humanities Requirement	3	**KSC 060**	
Free elective	3		
Natural Science, or Quantitative, or Social Science	3-5		
POLSC 360 - Race, Ethnicity, and Politics	3		

US Multicultural Overlay			
Total Credits: 16			
Third Year			
Semester 1			
Global South Elective	3		
Global Perspectives Overlay			
Outside Concentration	3		
POLSC Elective	3		
Natural Science, Quantitative, or Social Science	3		
Free Elective			
Total Credits: 15			
Semester 2			
Global South Required Elective	3		
POLSC Elective	3		
Outside Concentration	3		
Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq	3		
Free Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
POLSC 500 level or higher	3		
Free Elective	3		

Arts & Humanities Restrictive Elective	3		
Outside Concentration	3		
Non-Quantitative Social Science Restrictive Elective	3		
Total Credits: 15			
Semester 2			
POLSC Elective	3		
Free elective	3		
Free elective	3		
Free elective	3		
Free Elective	3		
Free Elective	1		
Total Credits: 16			
Total Program Hours: 120			

Political Science - Public Service (BA) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
POLSC 115 - U.S. Politics	3	**KSC 050**	
Social/Behavioral - POLSC Introductory Course	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Natural & Physical Science Course Restrictive Elective	4-5	**KSC 040**	

Total Credits: 14			
Semester 2			
COMM 106 - Public Speaking I	3	**KSC 020**	
STAT 225 - Introduction to Statistics	3	**KSC 030**	
POLSC 135 - Introduction to Comparative Politics	3		
Global Perspective Overlay and Required POLSC Introductory Course			
POLSC 155 - Introduction to Political Thought	3		
Ethical Reasoning Overlay and Required POLSC Introductory Course			
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Second Year			
Semester 1			
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**	
ENGL 210 - Honors English	3	**KSC 010**	
POLSC 400 - Political Inquiry and Analysis	3		
First Foreign Language - Level I	4		
Social/Behavioral Requirement	3	**KSC 050**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Semester 2			
POLSC 377 - Introduction to Public Policy	3		
First Foreign Language - Level II	4		

POLSC 307 - Introduction to Public Administration	3		
Fine Arts Restrictive Elective	3		
Free Elective	3		
Total Credits: 16			
Third Year			
Semester 1			
Free Elective - US Multicutural Overlay	3		
Public Service Elective	3		
Free Elective	3		
First Foreign Language - Level III or Second Foreign Language - Level I	3-4		
Natural/Quantitative Restrictive Elective	3		
Total Credits: 15			
Semester 2			
POLSC Elective	3		
Outside Concentration	3		
First Foreign Language - Level IV or Second Foreign Language - Level II	3-4		
Natural/Quantitative/Quantitative Social Sciences	3		
Free Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
POLSC 500 level or higher			

POLSC Elective	3		
Humanities Restrictive Elective	3		
Non-Quantitative Social Sciences	3		
Outside Concentration	3		
Total Credits: 15			
Semester 2			
POLSC Elective	3		
Free elective	3		
Free Elective	3		
Outside concentration	3		
Arts & Humanities Restrictive Elective	2	**KSC 060**	
Total Credits: 14			
Total Program Hours: 120			

Political Science - Public Service (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
POLSC 115 - U.S. Politics	3	**KSC 050**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Natural and Physical Science Requirement	4-5	**KSC 040**	
Total Credits: 14			

Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
STAT 225 - Introduction to Statistics	3	**KSC 030**
POLSC 135 - Introduction to Comparative Politics	3	
POLSC 155 - Introduction to Political Thought	3	
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
POLSC 400 - Political Inquiry and Analysis	3	
Natural/Quantitative Requirement	3-4	
Social and Behavioral Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
POLSC 377 - Introduction to Public Policy	3	
Free Elective	3	
Natural/Quantitative Requirement	3-5	
Arts and Humanities Requirement	3	**KSC 060**
POLSC 360 - Race, Ethnicity, and Politics	3	

Total Credits: 15			
Third Year			
Semester 1			
POLSC 500+ (subject area 1)	3		
Outside Concentration	3		
POLSC Elective	3		
Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
Public Service Elective	3		
POLSC Elective	3		
Outside Concentration	3		
Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq	3		
Free Elective			
Total Credits: 15			
Fourth Year			
Semester 1			
POLSC 500+ (subject area 2)	3		
Free Elective	3		
Arts & Humanities Restrictive Elective	3		
Non-Quantitative Social Sciences Restrictive Elective	3		

Outside Concentration	3		
Total Credits: 15			
Semester 2			
POLSC Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Total Credits: 16	1		
Total Program Hours: 120			

Political Science - Society and Environment (BA) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
POLSC 115 - U.S. Politics	3	**KSC 050**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Natural & Physical Science Course	4-5	**KSC 040**	
Total Credits: 14			
Semester 2			

COMM 106 - Public Speaking I	3	**KSC 020**
STAT 225 - Introduction to Statistics	3	**KSC 030**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
POLSC 145 - World Politics	3	
POLSC 155 - Introduction to Political Thought	3	
Ethical Reasoning Overlay - Required POLSC Introductory Course		
Total Credits: 15		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
POLSC 400 - Political Inquiry and Analysis	3	
First Foreign Language - Level I	4	**KSC 060**
Social and Behavioral Sciences Requirement	3	**KSC 050**
Free Elective	3	
Total Credits: 16		
Semester 2		
POLSC 377 - Introduction to Public Policy	3	
First Foreign Language - Level II	4	
Fine Arts Restrictive Elective	3	
Free Elective	3	
POLSC 360 - Race, Ethnicity, and Politics	3	
US Multicultural Overlay		

Total Credits: 16			
Third Year			
Semester 1			
POLSC 545 - The Politics of Developing Nations	3		
Global Perspectives Overlay			
Outside Concentration	3		
Free Elective	3		
First Foreign Language - Level III or Second Foreign Language - Level I	3-4		
Natural/Quantitative Restrictive Elective	3		
Total Credits: 15			
Semester 2			
POLSC Elective	3		
Outside Concentration	3		
First Foreign Language - Level IV or Second Foreign Language - Level II	3-4		
Natural/Quantitative/Quantitative Social Sciences	3		
Society and Environment Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
POLSC 500 level or higher	3		
POLSC Elective	3		
Humanities Restrictive Elective	3		

Non-Quantitative Social Sciences Restrictive Elective	3		
Outside Concentration	3		
Total Credits: 15			
Semester 2			
POLSC Elective	3		
Free Elective	3		
Free Elective	2		
Free Elective	3		
Arts & Humanities Restrictive Elective	2	**KSC 060**	
Total Credits: 14			
Total Program Hours: 120			

Political Science - Society and Environment (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
POLSC 115 - U.S. Politics	3	**KSC 050**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Natural and Physical Requirements	4-5	**KSC 040**	
Total Credits: 14			
Semester 2			

COMM 106 - Public Speaking I	3	**KSC 020**
STAT 225 - Introduction to Statistics	3	**KSC 030**
POLSC 145 - World Politics	3	
POLSC 155 - Introduction to Political Thought	3	
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
POLSC 400 - Political Inquiry and Analysis	3	
Natural and Quantitative Requirements	3-4	
Social and Behavioral Science Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
POLSC 377 - Introduction to Public Policy	3	
Natural and Quantitative Requirements	3-5	
Arts and Humanities Requirement	3	**KSC 060**
Free Elective	3	
POLSC 360 - Race, Ethnicity, and Politics	3	
Total Credits: 15		

Third Year			
Semester 1			
POLSC 545 - The Politics of Developing Nations	3		
Outside Concentration	3		
POLSC Elective	3		
Free Elective	3		
Natural and Quantitative Requirements	3		
Total Credits: 15			
Semester 2			
POLSC Elective	3		
POLSC 500+ (subject area 2)	3		
Outside Concentration	3		
Additional Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq	3		
Free Elective			
Total Credits: 15			
Fourth Year			
Semester 1			
POLSC 500+ (subject area 2)	3		
Free Elective	3		
Arts & Humanities Restrictive Elective	3		
Non-Quantitative Social Sciences Restrictive Elective	3		
Outside Concentration	3		
Total Credits: 15			

Semester 2			
POLSC Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	1		
Total Credits: 16			
Total Program Hours: 120			

Psychological Sciences

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The Department of Psychological Sciences at Kansas State University provides educational and research opportunities at both the undergraduate and graduate levels. At the undergraduate level, the department provides introductory service courses for a large portion of the total undergraduate student population. Our undergraduate majors typically follow one of three tracks: some students plan ultimately to attend graduate school in psychology; other students desire an undergraduate program that will lead to a job specifically in a particular area (e.g., an entry level counseling or clinical position); while other students simply want to obtain a Bachelor's degree and enter the workforce. In each case, the curriculum in the Psychology major is purposely flexible to accommodate these paths.

The mission of the Department of Psychological Sciences is to engage in the discovery of knowledge about behavior, the biological and psychological processes that affect that behavior, and to share that knowledge and the processes for obtaining it with our students and the scholarly community. The Department integrates graduate and undergraduate education, teaching, research, and service activities to further the overall mission of the university.

Although separate aspects of the Departmental mission are outlined below, one must recognize that these goals are intricately related and overlapping. It has always been the philosophy of the Department to integrate its activities to provide students with the best possible education and training.

Undergraduate Teaching and Advising

Within the context of a broad liberal arts education in the College of Arts and Sciences, the mission of the Undergraduate Program in Psychology is to provide an educational environment in which our students learn the basic concepts and principles of psychology and the methods of scientific inquiry into the behavior of individuals. The knowledge and skills that students obtain in our undergraduate program are useful in postgraduate education and in a wide variety of employment settings and careers.

- We facilitate our students' learning of the basic concepts and principles of psychology through classroom and non-classroom experiences (e.g., teaching practicums, research, internships, and field placements in various settings).
- We facilitate our students' learning of the methods of scientific inquiry into behavior, thought, and emotion through classes and opportunities in empirical research.
- We facilitate our students' abilities to evaluate claims and conclusions about psychological processes in a constructively critical manner. We provide our students opportunities to become critical thinkers and consumers of information pertaining to behavior, thought, motivation, and emotion.
- A significant portion of the Psychological Sciences Department's teaching resources are devoted to undergraduate majors outside Psychology through numerous and popular "service courses" that we offer each semester.

Effective advising allows our undergraduate students to achieve their goals while enrolled at Kansas State University and after graduation. We facilitate our students' success by providing information about course selection to fulfill bachelor degree requirements, about career options available after graduation, and about opportunities available (on and off campus) for enhancing their success in gaining employment or admittance into a graduate or professional program.

Bachelor of Arts

Psychology (BA)

The Department of Psychological Sciences at Kansas State University provides educational and research opportunities at both the undergraduate and graduate levels. At the undergraduate level, the department provides introductory service courses for a large portion of the total undergraduate student population. Our undergraduate majors typically follow one of three tracks: some students plan ultimately to attend graduate school in psychology; other students desire an undergraduate program that will lead to a job specifically in a particular area (e.g., an entry level counseling or clinical position); while other students simply want to obtain a Bachelor's degree and enter the workforce. In each case, the curriculum in the Psychology major is purposely flexible to accommodate these paths.

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Although separate aspects of the Departmental mission are outlined below, one must recognize that these goals are intricately related and overlapping. It has always been the philosophy of the Department to integrate its activities to provide students with the best possible education and training.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Psychology,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for **PSYCH**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Program

Statistics: 3 Credit Hours

Select one course STAT 225- STAT 799

If not met through K-State Core requirements, STAT 225 is required.

KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Major courses: 9 Credit Hours

All required courses

PSYCH 110 - General Psychology **Credits:** 3
PSYCH 350 - Experimental Methods in Psychology **Credits:** 3
PSYCH 351 - Experimental Methods Laboratory **Credits:** 2
PSYCH 500 - Junior Seminar in Psychology **Credits:** 1

Cognitive Psychology and Neuroscience: 6 Credit Hours

Choose two courses of the following:

PSYCH 460 - Cognitive Psychology **Credits:** 3
PSYCH 470 - Principles of Neuroscience **Credits:** 3
PSYCH 475 - Principles of Learning **Credits:** 3
PSYCH 480 - Fundamentals of Perception and Sensation **Credits:** 3

Social and Personality Psychology: 3 Credit Hours

Choose one course of the following:

PSYCH 605 - Advanced Social Psychology **Credits:** 3
PSYCH 620 - Psychology of Personality **Credits:** 3

Applied and Health Psychology: 3 Credit Hours

Choose one course from the following:

PSYCH 505 - Introduction to Psychopathology **Credits:** 3
PSYCH 518 - Introduction to Health Psychology **Credits:** 3
PSYCH 560 - Personnel Psychology **Credits:** 3
PSYCH 564 - Psychology of the Workplace **Credits:** 3
PSYCH 565 - Occupational Health Psychology **Credits:** 3

Psychology Electives: 12 Credit Hours

Choose twelve credits from PSYCH 120- PSYCH 799

BA Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

BA Natural and Quantitative Restricted Electives: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

PSYCH 470 or PSYCH 480 may be used to satisfy the Natural Science requirement

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 12-25 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

A&S Common degree requirements fulfilled by upper level PSYCH courses plus BA Restricted Electives. Note that PSYCH 470 or PSYCH 480 may be used to satisfy the Natural Science requirement

Bachelor of Science

Psychology (BS)

The Department of Psychological Sciences at Kansas State University provides educational and research opportunities at both the undergraduate and graduate levels. At the undergraduate level, the department provides introductory service courses for a large portion of the total undergraduate student population. Our undergraduate majors typically follow one of three tracks: some students plan ultimately to attend graduate school in psychology; other students desire an undergraduate program that will lead to a job specifically in a particular area (e.g., an entry level counseling or clinical position); while other students simply want to obtain a Bachelor's degree and enter the workforce. In each case, the curriculum in the Psychology major is purposely flexible to accommodate these paths.

The mission of the Department of Psychological Sciences is to engage in the discovery of knowledge about behavior, the biological and psychological processes that affect that behavior, and to share that knowledge and the processes for obtaining it with our students and the scholarly community. The Department integrates graduate and undergraduate education, teaching, research, and service activities to further the overall mission of the university.

Although separate aspects of the Departmental mission are outlined below, one must recognize that these goals are intricately related and overlapping. It has always been the philosophy of the Department to integrate its activities to provide students with the best possible education and training.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 or other approved A&S orientation

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Psychology** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for PSYCH**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Programs

Statistics: 3 Credit Hours

Choose one course from STAT 225-799

If not met through K-State Core requirements, STAT 225 is required.

KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Major Courses: 9 Credit Hours

PSYCH 110 - General Psychology **Credits:** 3
PSYCH 350 - Experimental Methods in Psychology **Credits:** 3
PSYCH 351 - Experimental Methods Laboratory **Credits:** 2
PSYCH 500 - Junior Seminar in Psychology **Credits:** 1

Cognitive Psychology and Neuroscience: 6 Credit Hours

Choose two courses from the following:

PSYCH 460 - Cognitive Psychology **Credits:** 3
PSYCH 470 - Principles of Neuroscience **Credits:** 3
PSYCH 475 - Principles of Learning **Credits:** 3
PSYCH 480 - Fundamentals of Perception and Sensation **Credits:** 3

Social and Personality Psychology: 3 Credit Hours

Choose one course from the following:

PSYCH 605 - Advanced Social Psychology **Credits:** 3
PSYCH 620 - Psychology of Personality **Credits:** 3

Applied Health Psychology: 3 Credit Hours

Choose one course from the following:

PSYCH 505 - Introduction to Psychopathology **Credits:** 3
PSYCH 518 - Introduction to Health Psychology **Credits:** 3
PSYCH 560 - Personnel Psychology **Credits:** 3
PSYCH 564 - Psychology of the Workplace **Credits:** 3
PSYCH 565 - Occupational Health Psychology **Credits:** 3

Psychology Electives: 12 Credit Hours

Choose twelve credits from PSYCH 120-799

BS Natural and Quantitative Restricted Electives: 12-15 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course Credits: 3-5

PSYCH 470 or PSYCH 480 may be used to satisfy this requirement

Quantitative course Credits: 3-4

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 6

BS Arts, Humanities, and Social Sciences Restricted Electives: 3 Credit Hours

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Free Electives: 25

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

A&S Common degree requirements fulfilled by upper level PSYCH courses plus BS Restricted Electives. Note that PSYCH 470 or PSYCH 480 may be used to satisfy the Natural Science requirement

Minor

Neuroscience Minor

The Neuroscience minor offers an exploration of the human brain and nervous system, covering topics that include cellular and molecular neuroscience to behavioral and cognitive neuroscience. Through a combination of courses providing theoretical knowledge and hands-on laboratory experience, students explore neuroanatomy and the neurological basis of behaviors such as emotion and stress, learning and memory, language and sleep. The minor prepares graduates for careers in research, healthcare, education, or industry.

Required Courses (10 credit hours)

BIOL 101 - Concepts of Biology **Credits:** 4
or
BIOL 198 - Principles of Biology **Credits:** 4
PSYCH 110 - General Psychology **Credits:** 3
PSYCH 370 - Introduction to Behavioral Neuroscience **Credits:** 3
or
PSYCH 470 - Principles of Neuroscience **Credits:** 3

PSYCH Electives (Minimum of 6 credit hours)

PSYCH 202 - Drugs and Behavior **Credits:** 3
PSYCH 270 - Brain Myths: Fact or Fiction? **Credits:** 3
PSYCH 370 - Introduction to Behavioral Neuroscience **Credits:** 3
PSYCH 465 - Cognitive Neuroscience **Credits:** 3
PSYCH 470 - Principles of Neuroscience **Credits:** 3
PSYCH 570 - Psychopharmacology **Credits:** 3
PSYCH 595 - Behavioral Neuroscience Lab Skills **Credits:** 3
PSYCH 596 - Cognitive Neuroscience Lab Skills **Credits:** 3
PSYCH 598 - Research in Neuroscience **Credits:** 0-18
PSYCH 630 - Human Neuropsychology **Credits:** 3
PSYCH 670 - Neural Mechanisms of Learning and Memory **Credits:** 3
PSYCH 715 - Psychology of Aging **Credits:** 3

Non-PSYCH Electives (maximum of 4 credit hours)

ANTH 280 - Introduction to Biological Anthropology **Credits:** 4
BIOL 513 - Physiological Adaptations of Animals **Credits:** 4
BIOL 541 - Cell Biology **Credits:** 3
BIOL 609 - Cellular and Molecular Biology of Human Diseases **Credits:** 3
ECE 690 - Problems in Electrical and Computer Engineering **Credits:** 1-18
ECE 690 only selected topic: Brain Computer Interfaces
KIN 611 - Autonomic Neurophysiology **Credits:** 3

Total hours required: 18-20

Psychology Minor

The Psychology minor provides students with knowledge, training, and skills that make them more prepared and marketable for a host of professional and educational opportunities. Theory, content, and methods of psychology complement many other academic disciplines.

Required Courses (6 Credit Hours)

PSYCH 110 - General Psychology **Credits:** 3
PSYCH 350 - Experimental Methods in Psychology **Credits:** 3

Elective Courses (12 Credit Hours)

12 elective credits in PSYCH courses (only 3 of which may be earned through PSYCH 599)

Total Hours Required: 18

Undergraduate Certificate

Clinical Psychology Undergraduate Certificate

The undergraduate certificate in Clinical Psychology is designed to provide a focused track of courses designed to increase the knowledge and skills of individuals interested in the field of clinical psychology. The curriculum provides foundational theoretical and practical coverage of human behavior, mental health, ethics, and current research in the field. It also provides targeted training in assessment, diagnosis, and treatment of mental health disorders. This certificate is intended for students interested in entering graduate or professional school in mental health and/or wanting to work with psychiatric patients after graduation.

Required courses: 9 credit hours

PSYCH 110 - General Psychology **Credits:** 3
PSYCH 505 - Introduction to Psychopathology **Credits:** 3
PSYCH 585 - Basic Concepts in Clinical Psychology **Credits:** 3

Elective courses from Psychological Sciences: minimum of 3 credit hours

PSYCH 510 - Introduction to Behavior Modification **Credits:** 3
PSYCH 540 - Psychology of Gender **Credits:** 3
PSYCH 556 - Multicultural Psychology **Credits:** 3
PSYCH 559 - Psychological Testing **Credits:** 3
PSYCH 565 - Occupational Health Psychology **Credits:** 3
PSYCH 570 - Psychopharmacology **Credits:** 3
PSYCH 584 - Group Psychotherapy **Credits:** 3
PSYCH 586 - Psychology Internship Readiness **Credits:** 1
PSYCH 587 - Psychology Internship in Mental Health **Credits:** 1-6
PSYCH 620 - Psychology of Personality **Credits:** 3
PSYCH 630 - Human Neuropsychology **Credits:** 3

Elective courses outside of Psychological Sciences: maximum of 3 credit hours

ADC 325 - Professional, Ethical, and Legal Issues in Counseling **Credits:** 3
ADC 570 - Methods of Group Counseling **Credits:** 3
CNRES 529 - Trauma and Traumatic Stress **Credits:** 3
CNRES 530 - Coping with Life Crises **Credits:** 3
CNRES 538 - Advanced Trauma and Traumatic Stress **Credits:** 3
COMM 130 - Interpersonal Communication **Credits:** 3
COMM 323 - Nonverbal Communication **Credits:** 3
HDFS 301 - Interpersonal Skills for Helping Professionals **Credits:** 3
HDFS 307 - Introduction to Marriage and Family Therapy **Credits:** 3
HDFS 724 - Working with Military Families **Credits:** 3
SOCWK 200 - Basic Skills for Working with People **Credits:** 3

Total Hours Required: 15

Other Program Choices

Psychology (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
PSYCH 110 - General Psychology **OR**	3	**KSC 050**
PSYCH 115 - General Psychology (Honors)	4	**KSC 050**
Second Language I	3	**KSC 060**
STAT 225 - Introduction to Statistics	3	**KSC 030**
ENGL 100 - Expository Writing I	3	**KSC 010**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 14		
Semester 2		
PSYCH 202 - Drugs and Behavior	3	
Arts and Humanities Requirement	3	**KSC 060**
Social and Behavorial Sciences Requirement	3	**KSC 050**
Second Language II	4	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Second Year		
Semester 1		
PSYCH 350 - Experimental Methods in Psychology	3	
Second Language III	3	
Communications Requirement	3	**KSC 020**
Free Elective {Institutionally Designated Area}	3	**KSC 070**

PSYCH 280 - Psychology of Childhood and Adolescence	3	
Total Credits: 15		
Semester 2		
PSYCH 351 - Experimental Methods Laboratory	2	
Second Language IV	3	
PSYCH 505 - Introduction to Psychopathology	3	
Natural and Physical Science Requirement	4	**KSC 040**
ENGL 200 - Expository Writing II	3	**KSC 010**
Total Credits: 15		
Third Year		
Semester 1		
PSYCH 500 - Junior Seminar in Psychology	1	
PSYCH 430 - Forensic Psychology	3	
PSYCH 460 - Cognitive Psychology	3	
A&S BA Outside Concentration	3	
A&S BA Ethical Reasoning Overlay	3	
A&S BA Fine Arts	3	
Total Credits: 16		
Semester 2		
PSYCH 470 - Principles of Neuroscience	3	
PSYCH 520 - Life Span Personality Development	3	
A&S BA Outside Concentration	3	

US Multicultural Overlay	3		
A&S BA Humanities	3		
Total Credits: 15			
Fourth Year			
Semester 1			
PSYCH 620 - Psychology of Personality	3		
A&S BA Outside Concentration	3		
Natural Science or Quantitative	3		
Natural Science or Quantitative 2	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
A&S BA Outside Concentration	3		
BA Outside Concentration 2	3		
Free Elective	3		
Free Elective	3		
Free Elective	2		
Total Credits: 14			
Total Program Hours: 120			

Psychology (BS) Academic Degree Map

First Year	Hours	K-State Core	

Semester 1		
PSYCH 110 - General Psychology **OR**	3	**KSC 050**
PSYCH 115 - General Psychology (Honors)	4	**KSC 050**
ENGL 100 - Expository Writing I	3	**KSC 010**
STAT 225 - Introduction to Statistics	3	**KSC 030**
Social & Behavioral Science Requirement	3	**KSC 050**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 14		
Semester 2		
PSYCH 202 - Drugs and Behavior	3	
Communications Requirement	3	**KSC 020**
BS Quantitative Course	3	
Arts and Humanities Requirement	3	**KSC 060**
Natural and Physical Science Requirement	4	**KSC 040**
Total Credits: 16		
Second Year		
Semester 1		
PSYCH 350 - Experimental Methods in Psychology	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
PSYCH 280 - Psychology of Childhood and Adolescence	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 15		

Semester 2			
PSYCH 351 - Experimental Methods Laboratory	2		
PSYCH 505 - Introduction to Psychopathology	3		
Natural Science Quantitative or Social	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
BS Outside Concentration	3		
Total Credits: 15			
Third Year			
Semester 1			
PSYCH 500 - Junior Seminar in Psychology	1		
BS Ethical Reasoning Overlay	3		
BS Outside Concentration	3		
PSYCH 460 - Cognitive Psychology	3		
A&S Multicultural Overlay	3		
Total Credits: 16			
Semester 2			
BS Outside Concentration	3		
PSYCH 470 - Principles of Neuroscience	3		
PSYCH 540 - Psychology of Gender	3		
Arts and Humanities Requirement	3		
Natural Science Quantitative or Social	3		
Total Credits: 15			

Fourth Year			
Semester 1			
BS Outside Concentration	3		
PSYCH 605 - Advanced Social Psychology	3		
A&S BS Global Perspectives Overlay	3		
A&S BS Natural Science	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
BS Outside Concentration	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			
Total Program Hours: 120			

Social Transformation Studies

Valerie Padilla Carroll, Head

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E-mail: soctran@k-state.edu
Web address: https://www.k-state.edu/social-transformation/

Drawing on the interdisciplinary scholarly and pedagogical traditions of the fields of ethnic studies and gender, women, and sexuality studies, Social Transformation Studies offers students a base of knowledge and skills that will enable them to launch

and sustain careers devoted to tackling some of the most pressing social issues facing Kansans, and Americans more broadly, including health disparities, food insecurity, gender violence, and racial and economic inequalities.

Social Transformation Studies offers students the opportunity to think critically about the multifaceted realities, identities, and important knowledges created by diverse peoples; develop cultural competencies that can be used in workplace settings; learn about and promote practices of inclusivity; and foster community-based engaged research and praxis responsive to the needs and realities of underserved communities.

A major in Social Transformation Studies equips students to approach issues of equity and civic engagement from a variety of perspectives and prepare them to excel in a wide range of fields, including violence prevention and advocacy, law and policy studies, health professions, the technology sector, business, and public health, as well as graduate-level studies. The Social Transformation Studies program provides students with skills that employers seek: innovation skills to create new solutions to both emerging and enduring social problems, the ability to work with and serve diverse and underserved constituencies, and critical thinking, writing and communication.

In addition to the general university and college requirements for the BA/BS degree, all Social Transformation Studies majors are required to complete 30 credit hours. All STRAN majors will complete one 3 credit introductory course (AMETH 160 or GWSS 105), 9 credits of core courses (STRAN 400 , STRAN 550 , and STRAN 600), and 3 cr. of elective in either AMETH or GWSS. For the remaining 15 credits of the Social Transformation Studies major, students will choose one of two tracks: American Ethnic Studies or Gender, Women, and Sexuality Studies.

The department offers an undergraduate major, minors in American Ethnic Studies, Gender, Women, and Sexuality Studies, and Queer Studies, a certificate in Intercultural Competence, and a graduate certificate in Gender, Women, and Sexuality Studies.

Bachelor of Arts

Social Transformation Studies (BA)

A major in Social Transformation Studies equips students to approach social justice and equity issues from a variety of perspectives and prepares them to excel in a wide variety of fields, including law and politics, violence prevention and advocacy, human services, education, business, health professions, and public health, as well as graduate-level studies. The Social Transformation Studies program provides students with skills that employers seek: the ability to work with and serve diverse and underserved constituencies, think critically, and write and communicate effectively.

The Social Transformation Studies major draws from the interdisciplinary scholarly and pedagogical traditions of the fields of American ethnic studies and gender, women, and sexuality studies to create something more than the sum of its parts. Ours is the only degree program of its kind in the state of Kansas.

Instructors and students in Social Transformation Studies analyze personal experience and social institutions as they shape and are shaped by race, ethnicity, indigeneity, gender, sex, sexuality, class, disability, citizenship, nation, coloniality, and global location. This analysis enables both an understanding of oppression as well as a vision for social equity and justice. A major in Social Transformation Studies offers students the opportunity to think critically about the multifaceted realities and identities of diverse peoples, as well as the important knowledges created by them; promotes social justice ideals and practices of inclusivity; and fosters community-based engaged research and praxis responsive to the needs and realities of underserved communities.

In addition to the general university and college requirements for the BA/BS degree, all Social Transformation Studies majors are required to complete 30 credit hours.

Graduation Requirements

To graduate with a degree in Social Transformation Studies, students must fulfill all program requirements and have a cumulative GPA of 2.0 or higher in courses taken for the Social Transformation Studies major at Kansas State University.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Social Transformation Studies,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for **AMETH, GWSS, STRAN**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Social Transformation Studies major

The STRAN major requires students to take one 3 credit hour introductory course chosen from five courses, one 3 credit hour core course chosen from two courses, 9 credit hours of major courses with an AMETH, GWSS, or STRAN prefix, and 6 credit hours of approved electives or additional AMETH, GWSS, or STRAN courses.

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Introductory course: 3 Credit Hours

One 3 credit hour introductory course chosen from five courses. Introductory course will offer an introduction to program.

AMETH 160 - Introduction to American Ethnic Studies **Credits:** 3
OR
GWSS 105 - Introduction to Gender, Women, and Sexuality Studies **Credits:** 3
OR
GWSS 220 - Climate Justice Movements **Credits:** 3
OR
GWSS 230 - Intersectionality and Health Justice **Credits:** 3
OR
GWSS 240 - Activism and Social Justice **Credits:** 3

Core Course: 3 Credit Hours

Complete either STRAN 400 **OR** STRAN 550

STRAN 400 - Transforming Society **Credits:** 3
OR
STRAN 550 - Practicing Social Justice **Credits:** 3

Major Courses: 15 Credit Hours

Any courses with the AMETH, GWSS, or STRAN prefixes

Electives: 9 Credit Hours

Three 3-credit courses from approved electives or additional AMETH, GWSS, or STRAN courses. List of approved electives: https://www.k-state.edu/social-transformation/academics/undergraduate-degrees/social-transformation-studies/gwss%20cr%20electives.html

*Note title on approved electives web page will be updated to read "STRAN cross-referenced electives" This list is not restricted only GWSS.

BA Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

BA Natural and Quantitative Restricted Electives: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science with MATH or STAT Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 16-31 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Bachelor of Science

Social Transformation Studies (BS)

A major in Social Transformation Studies equips students to approach social justice and equity issues from a variety of perspectives and prepares them to excel in a wide variety of fields, including law and politics, violence prevention and advocacy, human services, education, business, health professions, and public health, as well as graduate-level studies. The Social Transformation Studies program provides students with skills that employers seek: the ability to work with and serve diverse and underserved constituencies, think critically, and write and communicate effectively.

The Social Transformation Studies major draws from the interdisciplinary scholarly and pedagogical traditions of the fields of American ethnic studies and gender, women, and sexuality studies to create something more than the sum of its parts. Ours is the only degree program of its kind in the state of Kansas.

Instructors and students in Social Transformation Studies analyze personal experience and social institutions as they shape and are shaped by race, ethnicity, indigeneity, gender, sex, sexuality, class, disability, citizenship, nation, coloniality, and global location. This analysis enables both an understanding of oppression as well as a vision for social equity and justice. A major in Social Transformation Studies offers students the opportunity to think critically about the multifaceted realities and identities of diverse peoples, as well as the important knowledges created by them; promotes social justice ideals and practices of inclusivity; and fosters community-based engaged research and praxis responsive to the needs and realities of underserved communities.

In addition to the general university and college requirements for the BA/BS degree, all Social Transformation Studies majors are required to complete 30 credit hours.

Graduation Requirements

To graduate with a degree in Social Transformation Studies, students must fulfill all program requirements and have a cumulative GPA of 2.0 or higher in courses taken for the Social Transformation Studies major at Kansas State University.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Social Transformation Studies**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for AMETH, GWSS, and STRAN**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Social Transformation Studies major

The STRAN major requires students to take one 3 credit hour introductory course chosen from five courses, one 3 credit hour core course chosen from two courses, 9 credit hours of major courses with an AMETH, GWSS, or STRAN prefix, and 6 credit hours of approved electives or additional AMETH, GWSS, or STRAN courses.

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Introductory course: 3 Credit Hours

One 3 credit hour introductory course chosen from five courses. Introductory course will offer an introduction to program.

AMETH 160 - Introduction to American Ethnic Studies **Credits:** 3
OR
GWSS 105 - Introduction to Gender, Women, and Sexuality Studies **Credits:** 3
OR
GWSS 220 - Climate Justice Movements **Credits:** 3
OR
GWSS 230 - Intersectionality and Health Justice **Credits:** 3
OR
GWSS 240 - Activism and Social Justice **Credits:** 3

Core course: 3 Credit Hours

Complete either STRAN 400 **OR** STRAN 550

STRAN 400 - Transforming Society **Credits:** 3
OR
STRAN 550 - Practicing Social Justice **Credits:** 3

Major Courses: 15 Credit Hours

Any courses with the AMETH, GWSS, or STRAN prefixes

Electives: 9 Credit Hours

Three 3-credit courses from approved electives or additional AMETH, GWSS, or STRAN courses. List of approved electives: https://www.k-state.edu/social-transformation/academics/undergraduate-degrees/social-transformation-studies/gwss%20cr%20electives.html

*Note title on approved electives web page will be updated to read "STRAN cross-referenced electives" This list is not restricted only GWSS.

BS Natural and Quantitative Restricted Electives: 12-15 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course Credits: 3-5

Quantitative course Credits: 3-4

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

BS Arts, Humanities, and Social Sciences Requirements: 3 Credit Hours

Fine Arts or Humanities: Any combination of courses: 3 credits

Free Electives: 26-31

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Minor

American Ethnic Studies Minor

American Ethnic Studies emerged in universities as a response to a community-based demand from civil rights movements to include the perspectives of communities of color historically erased, socially dismissed, and institutionally underrepresented. A minor in American Ethnic Studies teaches university students to think critically about the multifaceted realities and identities of America's diverse ethnicities; promotes social justice ideals and practices of inclusivity; fosters community-based engaged research and praxis responsive to the needs and realities of underserved constituencies; and foregrounds the needs, concerns, and knowledge of historically underrepresented peoples of color in Kansas.

Program requirements

Students completing 15 credit hours of course work may earn a minor in American ethnic studies. The course requirements are:

Required Core (6 credit hours)

AMETH 160 - Introduction to American Ethnic Studies **Credits:** 3
AMETH 351 - African American Perspectives **Credits:** 3
or
AMETH 352 - American Indian Perspectives **Credits:** 3
or
AMETH 353 - Latina/o Perspectives **Credits:** 3
or
AMETH 354 - Asian American Perspectives **Credits:** 3

Electives (9 credit hours)

Any three additional courses within AMETH

Total credit hours: (15)

Gender, Women, and Sexuality Studies Minor

Required Courses (3 credit hours)

GWSS 105 - Introduction to Gender, Women, and Sexuality Studies **Credits:** 3
or
GWSS 305 - Engaging Gender, Women, and Sexuality Studies **Credits:** 3

Electives (12 credit hours)

Electives can be chosen from GWSS course offerings, or from courses from other departments that have been approved for Gender, Women, and Sexuality Studies credit (see list below).

Overlay Requirements

ONE elective (3 credit hours) must be a GWSS course.
AMETH 351 - African American Perspectives **Credits:** 3 (Top/Sex HIV/AIDS & Black Comm)
AMETH 352 - American Indian Perspectives **Credits:** 3
AMETH 353 - Latina/o Perspectives **Credits:** 3 (Art & Activism)
AMETH 354 - Asian American Perspectives **Credits:** 3 (Identity Politics in Asian American Drama)
AMETH 354 - Asian American Perspectives **Credits:** 3 (Racist Love: Asian Americans and the Model-Minority Myth)
AMETH 354 - Asian American Perspectives (Islamophobia) **Credits:** 3
AMETH 370 - Politics of Women of Color **Credits:** 3
AMETH 450 - Comparative Ethnic Studies **Credits:** 3 (The Political Body)
AMETH 461 - Transformative Thought **Credits:** 3
AMETH 560 - Topics in American Ethnic Studies **Credits:** 3 (Erotic Justice: Audre Lorde)
AMETH 560 - Special Topics: Exploring Federal Indian Law **Credits:** 3
AMETH 560 - Topics in American Ethnic Studies **Credits:** 1-4 (Intersections of Crime)
AMETH 560 - Topics in American Ethnic Studies **Credits:** 1-4 (Race, Sex, and Science Fiction)
AMETH 560 - Topics in American Ethnic Studies **Credits:** 1-4 (Hollywood Latina Images)

AMETH 560 - Special Topics: Exploring Federal Indian Law **Credits:** 3
ANTH 305 - Cultures of South Asia **Credits:** 3
ANTH 328 - Topics in Linguistic Anthropology **Credits:** 3
ANTH 528 - Topics in Linguistic Anthropology **Credits:** 1-4 (Language and Gender)
ANTH 528 - Topics in Linguistic Anthropology **Credits:** 1-4 (Language and Power)
ANTH 710 - Writing Cultures: Ethnographic Methods **Credits:** 3
CLSCS 501 - Topics in Classical Literature in Translation **Credits:** 3 (Comedy, Humor, and Satire in Classical Literature)
CLSCS 502 - Topics in Classical Studies **Credits:** 3 (Real Men Play Naked, or Gender and Sexuality in Greece and Rome)
COMM 420 - Gender Communication **Credits:** 3
COMM 630 - Special Topics in Rhetoric and Communication **Credits:** 3 (Gender and Communication)
DAS 355 - Introduction to Nonviolence Studies **Credits:** 3
DAS 590 - Applied Nonviolence **Credits:** 3
EDACE 750 - Women, Education, Leadership, and Work **Credits:** 3
ENGL 285 - Introduction to American Ethnic Literatures **Credits:** 3 (African-American Women Writers)
ENGL 315 - Introduction to Popular Culture **Credits:** 3
ENGL 386 - African American Literatures **Credits:** 3
ENGL 387 - American Indian Literatures **Credits:** 3
ENGL 388 - Asian American Literatures **Credits:** 3
ENGL 389 - Latina/o Literatures **Credits:** 3
ENGL 395 - Topics in English **Credits:** 1-3 (Shakespeare: Comedy, Gender, and Performance)
ENGL 399 - Honors Seminar in English **Credits:** 1-3 (How to Cook a Racoon)
ENGL 420 - Topics in Film **Credits:** 3 (Violence and War)
ENGL 420 - Topics in Film **Credits:** 3 (Gender in Horror)
ENGL 450 - Literature and Society **Credits:** 3 (Women in Television)
ENGL 485 - Topics in Rhetoric and Literacy **Credits:** 3 (Girl Talk: Women's Words)
ENGL 525 - Women in Literature **Credits:** 3
ENGL 605 - Readings in Medieval Literature **Credits:** 3 (The Idea of Work in the Middle Ages; Medieval Others: Dragons, Damsels, & Death)
ENGL 625 - Readings in 18th Century British Literature **Credits:** 3 (Restoration Drama)
ENGL 625 - Readings in 18th Century British Literature **Credits:** 3 (Austen)
ENGL 625 - Readings in Eighteenth-Century British Literature **Credits:** 3 (Ghosts and Goths)
ENGL 630 - Readings in Nineteenth-Century British Literature **Credits:** 3 (Victorian Childhoods)
ENGL 635 - Readings in Twentieth- and Twenty-First-Century British Literature **Credits:** 3 (The Bloomsbury Group)
ENGL 650 - Readings in Twentieth- and Twenty-First-Century American Literature **Credits:** 3 (Queer Native Literatures or Dream Acts)
ENGL 655 - Readings in American Ethnic Literature **Credits:** 3 (What is African American Literature?)
ENGL 655 - Readings in American Ethnic Literature **Credits:** 3 (Dream Acts: Immigration in Ethnic Literature)
ENGL 660 - Readings in Major Authors **Credits:** 3 (Gender and Performance)
ENGL 660 - Reading in Major Authors **Credits:** 3 (The Brontes)
ENGL 660 - Readings in Major Authors **Credits:** 3 (Gender and Performance)
ENGL 660 - Readings in Major Authors **Credits:** 3 (American Gothic)
ENGL 660 - Readings in Major Authors **Credits:** 3 (Austen and Her Legacy)
ENGL 660 - Readings in Major Authors **Credits:** 3 (George Eliot)
ENGL 660 - Readings in Major Authors **Credits:** 3 (Maya Angelou & Toni Morrison)
ENGL 660 - Readings in Major Authors **Credits:** 3 (Erdrich and Alexie)
ENGL 660 - Readings in Major Authors **Credits:** 3 (Louise Erdrich)
ENGL 660 - Readings in Major Authors **Credits:** 3 (American Indian Literatures)
ENGL 660 - Readings in Major Authors **Credits:** 3 (Anonymous)

ENGL 670 - Topics in British Literature **Credits:** 3 (Women in 18th Century Literature, Downton Abbey in Context, 18th Century Women Writers)
ENGL 680 - Topics in American Literature **Credits:** 3 (In the Shadows of American Literature)
ENGL 680 - Topics in American Literature **Credits:** 3 (Latina/Latino Literature)
ENGL 680 - Topics in American Literature **Credits:** 3 (Asian-American Literature)
ENGL 680 - Topics in American Literature **Credits:** 3 (Two-Spirit Literatures)
ENGL 695 - Topics in Literature **Credits:** 3 (African-American Children's Literature, Innocence and Experience, British Women Novelists, or Postcolonial Literature)
ENGL 705 - Theories of Cultural Studies **Credits:** 3
ENGL 710 - Studies in Literary Genre **Credits:** 3 (Black to the Future)
ENGL 710 - Studies in a Literary Genre **Credits:** 3 (Gender & Sexuality in American Indian Literature)
ENGL 710 - Studies in Literary Genre **Credits:** 3 (Romances and Saints' Lives)
ENGL 720 - Studies in a Major Author **Credits:** 3 (Comedy and Gender)
ENGL 720 - Studies in a Major Author **Credits:** 3 (Shakespeare)
ENGL 720 - Studies in a Major Author **Credits:** 3 (The Brontes)
ENGL 720 - Studies in a Major Author **Credits:** 3 (Alcott and Twain)
ENGL 720 - Studies in a Major Author **Credits:** 3 (Louisa May Alcott)
ENGL 730 - Studies in a Literary Period **Credits:** 3 (Classic Girls in a Modern Age)
ENGL 740 - Studies in Literary Theory **Credits:** 3 (African American Literary Theory)
ENGL 745 - Cultural Studies **Credits:** 3 (Queer Cinema)
ENGL 755 - Studies in Composition and Rhetoric **Credits:** 3 (Power and Persuasion)
GRMN 515 - Topics in German Cultural Studies **Credits:** 3 (Brothers Grimm and Beyond)
GRMN 521 - Introductory Topics in German Literature and Culture of the 18th and 19th century **Credits:** 3 (Love, Lust, and Death)
GRMN 701 - Topics in Eighteenth Century German Literature and Culture **Credits:** 3 (Judaism in Germany)
GRMN 705 - Topics in Twentieth and Twenty-First Century German Literature and Culture **Credits:** 3 (The Graphic Novel and Postmemory)
GWSS 105 - Introduction to Gender, Women, and Sexuality Studies **Credits:** 3
GWSS 275 - Gender, Race, and Sex in Science Fiction **Credits:** 3
GWSS 300 - Selected Studies of Gender, Women, and Sexuality Studies **Credits:** 3 (Can be repeated with change in topic)
GWSS 305 - Engaging Gender, Women, and Sexuality Studies **Credits:** 3
GWSS 325 - Queer Studies: Concepts, History, and Politics **Credits:** 3
GWSS 335 - Transgender Studies **Credits:** 3
GWSS 350 - Gender in American Film **Credits:** 3
GWSS 365 - Reproductive Rights and Wrongs **Credits:** 3
GWSS 375 - Disability Justice and Gender **Credits:** 3
GWSS 380 - Global Struggles for Feminist, Queer, and Trans Justice **Credits:** 3
GWSS 405 - Resistance and Movements for Social Change **Credits:** 3
GWSS 410 - Feminist Thought **Credits:** 3
GWSS 435 - Race/Sex/Science **Credits:** 3
GWSS 450 - The Stories of a Young Girl **Credits:** 3
GWSS 460 - Coming Out and Sexual Identity **Credits:** 3
GWSS 480 - Seminar in Gender, Environment and Justice **Credits:** 3
GWSS 499 - Honors Project **Credits:** 3
GWSS 500 - Topics in Gender, Women, and Sexuality Studies **Credits:** 1-3 (Can be repeated with change in topic)
GWSS 505 - Independent Study in Gender, Women, and Sexuality Studies **Credits:** 1-3
GWSS 510 - Research Methods in Gender, Women, and Sexuality Studies **Credits:** 3

GWSS 550 - Gender and Popular Culture **Credits:** 3
GWSS 560 - Intersections of Violence and Resistance **Credits:** 3
GWSS 570 - Gender and Food Justice **Credits:** 3
GWSS 605 - Social Change Field-Experience **Credits:** 3
GWSS 610 - Capstone Seminar in Gender, Women, and Sexuality Studies **Credits:** 3
GWSS 700 - Advanced Topics in Gender, Women, and Sexuality Studies **Credits:** 1-3 (Can be repeated with change in topic)
GWSS 784 - Internship in Gender, Women, and Sexuality Studies **Credits:** 1-12
GWSS 799 - Independent Study for Graduate Students or Advanced Undergraduate Students **Credits:** 1-3 (Can be repeated with change in topic)
HIST 538 - Women in Sport **Credits:** 3
HIST 540 - Women in America, 1600 to the Civil War **Credits:** 3
HIST 542 - Women in America, Civil War to the Present **Credits:** 3
HIST 597 - Topics in European History **Credits:** 1-3 (Gender and Sex in Greece and Rome)
HIST 598 - Topics in Non-Western History **Credits:** 1-3 (Women, Gender, and Islam)
LEAD 430 - Women and Leadership **Credits:** 3
MC 612 - Diversity in Media **Credits:** 3
MUSIC 151 - Women in Music **Credits:** 3
PHILO 150 - Introduction to Philosophy of Feminism **Credits:** 3
PHILO 331 - Philosophy of Gender **Credits:** 3
PHILO 590 - Topics in Philosophy **Credits:** 3 (Philosophy of Feminism)
POLSC 606 - Gender and Politics **Credits:** 3
PSYCH 540 - Psychology of Gender **Credits:** 3
PSYCH 563 - Gender Issues in the Workplace **Credits:** 3
SOCIO 510 - Social Welfare as a Social Institution **Credits:** 3
SOCIO 545 - The Sociology of Women **Credits:** 3
SOCIO 633 - Gender, Power, and Development **Credits:** 3
SOCIO 635 - Sociology of Human Trafficking **Credits:** 3
CRIM 665 - Women and Crime **Credits:** 3
SOCIO 670 - Diversity and Social Interaction in the Workplace **Credits:** 3
SOCIO 701 - Problems in Sociology **Credits:** 1-18 (Human Trafficking)
SOCWK 510 - Social Welfare as a Social Institution **Credits:** 3
SPAN 735 - 20th- and 21st-Century Spain **Credits:** 3
STRAN 550 - Practicing Social Justice **Credits:** 3
STRAN 600 - Pathways to Social Change **Credits:** 3
THTRE 782 - Women in Theatre **Credits:** 3

Total credit hours: (15)

Queer Studies Minor

Requirements (15 credit hours)

Required course:
GWSS 325 - Queer Studies: Concepts, History, and Politics **Credits:** 3

Elective Courses (12 credit hours)

Students may choose electives from approved list that will evolve as the KSU curriculum changes. Currently:

AMETH 353 - Latina/o Perspectives **Credits:** 3 (Art and Activism)
AMETH 354 - Asian American Perspectives **Credits:** 3
AMETH 370 - Politics of Women of Color **Credits:** 3
AMETH 461 - Transformative Thought **Credits:** 3
AMETH 560 - Topics in American Ethnic Studies **Credits:** 3 (The Intersection of Race, Ethnicity, Gender and Sexual Orientation for LGBT Students)
AMETH 560 - Topics in American Ethnic Studies **Credits:** 1-4 (Erotic Justice: Audre Lorde)
AMETH 560 - Topics in American Ethnic Studies **Credits:** 1-4 (Race, Sex, and Science Fiction)
ANTH 328 - Topics in Linguistic Anthropology **Credits:** 3
ANTH 528 - Topics in Linguistic Anthropology **Credits:** 1-4
COMM 450 - Special Studies in Human Discourse **Credits:** 3 (Communication and Sexuality)
ENGL 680 - Topics in American Literature **Credits:** 3 (Queer Native Literature and Theory)
ENGL 740 - Studies in Literary Theory **Credits:** 3 (Queer Theory)
ENGL 745 - Cultural Studies **Credits:** 3
HDFS 300 - Problems in Human Development and Family Science **Credits:** 1-18
GWSS 300 - Selected Studies of Gender, Women, and Sexuality Studies **Credits:** 3
GWSS 300 - Topics in Gender, Women, and Sexuality Studies **Credits:** 3 (Body Politics)
GWSS 300 - Topics in Gender, Women, and Sexuality Studies **Credits:** 3 (Legal Injustice)
GWSS 335 - Transgender Studies **Credits:** 3
GWSS 365 - Reproductive Rights and Wrongs **Credits:** 3
GWSS 375 - Disability Justice and Gender **Credits:** 3
GWSS 380 - Global Struggles for Feminist, Queer, and Trans Justice **Credits:** 3
GWSS 405 - Resistance and Movements for Social Change **Credits:** 3
GWSS 435 - Race/Sex/Science **Credits:** 3
GWSS 460 - Coming Out and Sexual Identity **Credits:** 3
GWSS 500 - Topics in Gender, Women, and Sexuality Studies **Credits:** 1-3 (Love and Sex in India)
GWSS 500 - Topics in Gender, Women, and Sexuality Studies **Credits:** 1-3 (LGBTIQ Sex & Motherhood)
GWSS 500 - Topics in Gender, Women, and Sexuality Studies **Credits:** 1-3 (Black Sexualities)
GWSS 500 - Topics in Gender, Women, and Sexuality Studies **Credits:** 1-3 (Feminist Science Studies)
GWSS 505 - Independent Study in Gender, Women, and Sexuality Studies **Credits:** 1-3
GWSS 560 - Intersections of Violence and Resistance **Credits:** 3
GWSS 610 - Capstone Seminar in Gender, Women, and Sexuality Studies **Credits:** 3
GWSS 700 - Advanced Topics in Gender, Women, and Sexuality Studies **Credits:** 1-3 (Sexuality Studies)
GWSS 700 - Advanced Topics in Gender, Women, and Sexuality Studies **Credits:** 1-3 (Global Sexual Identities)
GWSS 700 - Advanced Topics in Gender, Women, and Sexuality Studies **Credits:** 1-3 (Queer of Color Critique)
GWSS 700 - Advanced Topics in Gender, Women, and Sexuality Studies **Credits:** 1-3 (Black Sexualities)
GWSS 784 - Internship in Gender, Women, and Sexuality Studies **Credits:** 1-12
HIST 533 - Topics in the History of the Americas **Credits:** 1-3 (Cold War Cultures)
HIST 559 - History of Aztecs, Inca, and Maya **Credits:** 3
LEAD 350 - Culture and Context in Leadership **Credits:** 3
LEAD 502 - Independent Study in Leadership Studies **Credits:** 0-3 (Queer Leadership)
SOCIO 500 - Sociological Perspectives on Contemporary Issues **Credits:** 1-3 (Sociology of Sexuality)

Undergraduate Certificate

Intercultural Competence Undergraduate Certificate

The Intercultural Competence Certificate for undergraduates will provide participants with multicultural competencies such as socio-historical knowledge and behavioral foundations, enabling them to connect effectively and interact productively with a diverse workforce. The certificate will not only expand individuals' understandings about difference (racial/ethnic, economic class, gender, ability, sexuality) but also enable participants to design and implement cultural competence training within varied social institutions.

Upon completion of a certificate in Intercultural Competence participants will have acquired:

a. an increased sensitivity to diverse multicultural U.S. histories

b. an ability to interact respectfully and productively with diverse populations

c. a self-understanding through transformative self-reflection

d. the skills necessary to design and institutionalize cultural competent policies and practices within organizations such as businesses, schools, health services, social services, and more

Requirements (12 credits)

AMETH 300 - Intercultural Competence in Institutions **Credits:** 3

AND

One of the following courses:

AMETH 351 - African American Perspectives **Credits:** 3
AMETH 352 - American Indian Perspectives **Credits:** 3
AMETH 353 - Latina/o Perspectives **Credits:** 3
AMETH 354 - Asian American Perspectives **Credits:** 3

AND

Two other AMETH courses at any level

Certificate participants must take AMETH 300 but may substitute one of the following courses for one of the three other AMETH courses. Certificate courses can count towards the fulfillment of other College or University general education requirements, and can also count toward the major or minor in a variety of departments.

Electives

Certificate participants must take AMETH 300 but may substitute one of the following courses for one of the three other AMETH courses listed in requirements #2 or #3 above

ANTH 200 - Introduction to Cultural Anthropology **Credits:** 3
ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3
ANTH 210 - Introduction to Cultural Anthropology, Honors **Credits:** 3
ANTH 314 - Introduction to the World's Religions **Credits:** 3
ANTH 318 - Topics in Cultural Anthropology **Credits:** 3
ANTH 525 - Language and Culture **Credits:** 3
CNRES 532 - Conflict Resolution across Cultures & Contexts **Credits:** 3
CNRES 752 - Culture and Conflict **Credits:** 3
COMM 480 - Intercultural Communication **Credits:** 3
COMM 535 - Communication and Leadership **Credits:** 3
DAS 475 - Nonviolence Studies: Women and Peace Movements **Credits:** 3
DAS 555 - Themes in Nonviolence Studies **Credits:** 3
EDEL 414 - Teaching Culturally and Linguistically Diverse Learners **Credits:** 3
ENGL 476 - American English **Credits:** 3

ENGL 384 - Multicultural Children's Literature **Credits:** 3
GENAG 210 - Human and Cultural Diversity in the Food and Agricultural Sciences **Credits:** 3
GEOG 100 - World Geography & Globalization **Credits:** 3
GEOG 200 - Human Geography **Credits:** 3
GWSS 105 - Introduction to Gender, Women, and Sexuality Studies **Credits:** 3
GWSS 300 - Selected Studies of Gender, Women, and Sexuality Studies **Credits:** 3
GWSS 305 - Engaging Gender, Women, and Sexuality Studies **Credits:** 3
GWSS 325 - Queer Studies: Concepts, History, and Politics **Credits:** 3
GWSS 335 - Transgender Studies **Credits:** 3
GWSS 550 - Gender and Popular Culture **Credits:** 3
HDFS 552 - Social Justice in a Family Context **Credits:** 3
HIST 311 - Race & US Foreign Relations **Credits:** 3
HIST 537 - History of the Indigenous Peoples of North America **Credits:** 3
HIST 539 - African-American History **Credits:** 3
HIST 542 - Women in America, Civil War to the Present **Credits:** 3
HIST 561 - Colonial Hispanic America **Credits:** 3
LEAD 350 - Culture and Context in Leadership **Credits:** 3
MUSIC 155 - Jazz in Kansas City and the Southwest **Credits:** 2-3
PHILO 380 - Philosophy and Race **Credits:** 3
POLSC 341 - Politics of the World Economy **Credits:** 3
POLSC 524 - Political Islam **Credits:** 3
PSYCH 563 - Gender Issues in the Workplace **Credits:** 3
PSYCH 556 - Multicultural Psychology **Credits:** 3
SPAN 566 - Cultures of the Spanish-speaking World: Spanish America **Credits:** 3
SOCIO 570 - Race and Ethnic Relations in the USA **Credits:** 3

Note:

Students who wish to enroll in the Intercultural Competence Certificate should consult with the Head of the American Ethnic Studies Department. The Head will assist with enrollment in the certificate.

Total hours required: 12

Other Program Choices

Social Transformation Studies (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	

Social and Behavioral Science Requirement	3	**KSC 050**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
Social and Behavioral Science Requirement	3	**KSC 050**
Natural and Physical Science Requirement	4	**KSC 040**
AMETH 160 - Introduction to American Ethnic Studies **OR**	3	
GWSS 105 - Introduction to Gender, Women, and Sexuality Studies **OR**	3	
GWSS 220 - Climate Justice Movements **OR**	3	
GWSS 230 - Intersectionality and Health Justice **OR**	3	
GWSS 240 - Activism and Social Justice	3	
Free Elective	2	
Total Credits: 15		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II	3	**KSC 010**
AMETH, GWSS or STRAN major course	3	
Arts and Humanities Requirement	3	**KSC 060**
Free Elective	3	
Free Elective	3	

Total Credits: 15		
Semester 2		
Free Elective	3	
AMETH, GWSS or STRAN major course	3	
Natural Science Elective	3	
Arts and Humanities Requirement	3	**KSC 060**
Fine Arts or Humanities Elective	3	
Total Credits: 15		
Third Year		
Semester 1		
AMETH, GWSS or STRAN major course	3	
Outside Concentration	3	
QUANTITATIVE ELECTIVE: From approved ArtSci Quantitative list	3	
US MULTICULTURAL OVERLAY/FREE ELECTIVE: From approved ArtSci Multicultural Overlay list	3	
GLOBAL PERSPECTIVES OVERLAY/FREE ELECTIVE: From approved ArtSci Global Perspectives Overlay list.	3	
Total Credits: 15		
Semester 2		
STRAN 400 - Transforming Society **OR**	3	
STRAN 550 - Practicing Social Justice	3	
AMETH, GWSS or STRAN major course	3	
Outside Concentration	3	
NATURAL SCIENCE ELECTIVE: From approved ArtSci Natural Science list	3	

ETHICAL REASONING OVERLAY/FREE ELECTIVE: From approved ArtSci Ethical Reasoning Overlay list	3		
Total Credits: 15			
Fourth Year			
Semester 1			
AMETH, GWSS or STRAN major course	3		
Approved Elective or additional AMETH, GWSS or STRAN course	3		
Outside Concentration	3		
NON-QUANTITATIVE SOCIAL SCIENCE ELECTIVE: From approved ArtSci non-quantitative social science list. Select this course to be 300-level or above or with prereq in same area.	3		
NATURAL, QUANTITATIVE, OR QUANTITATIVE SOCIAL SCIENCE ELECTIVE: Select this course to be 300-level or with pre-req in same area.	3		
Total Credits: 15			
Semester 2			
Approved Elective or additional AMETH, GWSS or STRAN course	3		
Approved Elective or additional AMETH, GWSS or STRAN course	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			
Total Program Hours: 120			

Social Transformation Studies (BS) Academic Degree Map

First Year	Hours	K-State Core	

Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Social and Behavioral Science Requirement	3	**KSC 050**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
Social and Behavioral Science Requirement	3	**KSC 050**
Natural and Physical Science Requirement	4	**KSC 040**
AMETH 160 - Introduction to American Ethnic Studies **OR**	3	
GWSS 105 - Introduction to Gender, Women, and Sexuality Studies **OR**	3	
GWSS 220 - Climate Justice Movements **OR**	3	
GWSS 230 - Intersectionality and Health Justice **OR**	3	
GWSS 240 - Activism and Social Justice	3	
Free Elective	2	
Total Credits: 15		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II	3	**KSC 010**
AMETH, GWSS or STRAN major course	3	

Arts and Humanities Requirement	3	**KSC 060**
Free Elective	3	
Free Elective	3	
Total Credits: 15		
Semester 2		
Free Elective	3	
AMETH, GWSS or STRAN major course	3	
Natural Science Elective	3	
Arts and Humanities Requirement	3	**KSC 060**
Fine Arts or Humanities Elective	3	
Total Credits: 15		
Third Year		
Semester 1		
AMETH, GWSS or STRAN major course	3	
Outside Concentration	3	
QUANTITATIVE ELECTIVE: From approved ArtSci Quantitative list	3	
US MULTICULTURAL OVERLAY/FREE ELECTIVE: From approved ArtSci Multicultural Overlay list	3	
GLOBAL PERSPECTIVES OVERLAY/FREE ELECTIVE: From approved ArtSci Global Perspectives Overlay list.	3	
Total Credits: 15		
Semester 2		
STRAN 400 - Transforming Society **OR**	3	
STRAN 550 - Practicing Social Justice	3	

AMETH, GWSS or STRAN major course	3		
Outside Concentration	3		
NATURAL SCIENCE ELECTIVE: From approved ArtSci Natural Science list	3		
ETHICAL REASONING OVERLAY/FREE ELECTIVE: From approved ArtSci Ethical Reasoning Overlay list	3		
Total Credits: 15			
Fourth Year			
Semester 1			
AMETH, GWSS or STRAN major course	3		
Approved Elective or additional AMETH, GWSS or STRAN course	3		
Outside Concentration	3		
NON-QUANTITATIVE SOCIAL SCIENCE ELECTIVE: From approved ArtSci non-quantitative social science list. Select this course to be 300-level or above or with prereq in same area.	3		
NATURAL, QUANTITATIVE, OR QUANTITATIVE SOCIAL SCIENCE ELECTIVE: Select this course to be 300-level or with pre-req in same area.	3		
Total Credits: 15			
Semester 2			
Approved Elective or additional AMETH, GWSS or STRAN course	3		
Approved Elective or additional AMETH, GWSS or STRAN course	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			
Total Program Hours: 120			

Sociology, Anthropology, and Social Work

Don Kurtz, Interim Head

204 Waters Hall
785-532-6865
E-mail: socansw@k-state.edu
www.k-state.edu/sasw

The Department of Sociology, Anthropology and Social Work offers three separate undergraduate majors: sociology, anthropology, and social work. The sociology major has two options: general sociology and criminology. The student may enroll in a BS or BA program in any of these majors.

The Non-Violence Studies Certificate is offered for 15 credit hours.

Bachelor of Arts

Anthropology (BA)

The anthropology program at K-State offers classes across the four major subfields of anthropology: biological, archaeology, cultural, and linguistic. Biological anthropology explores the origins of human life and the physical bases of human cultures. Archaeology examines the development of human cultures from prehistory and ancient civilizations to historic and modern times. Cultural anthropology studies human behavior by surveying the range and variety of cultural traditions, religions, and beliefs throughout the world. Linguistic anthropology focuses on the languages and dialects of the world and the relationships of language to thought and culture. Some anthropology majors generalize, while others specialize in one or more of the subfields. To ensure breadth, our students will need to engage with the three subfields of anthropology that we specialize in at K-State: cultural, biological, and archaeology.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except Sociology, Anthropology, and Social Work OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for **ANTH**, **ADC**, **CRIM**, **SOCIO**, **SOCWK**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with the program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with the program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Programs

Introduction and Initiation Courses: 13 Credit Hours

ANTH 260 - Introduction to Archeology **Credits:** 3
ANTH 280 - Introduction to Biological Anthropology **Credits:** 4
ANTH 301 - Initiation to Anthropology **Credits:** 3
Choose one course from the list below: ANTH 200 - Introduction to Cultural Anthropology **Credits:** 3
ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3
ANTH 210 - Introduction to Cultural Anthropology, Honors **Credits:** 3

Statistics Requirement

If not met through K-State Core requirements, STAT 225 is required.

KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Anthropology Electives: 21 Credit Hours

Majors must take electives in at least two of the three main subfields: cultural anthropology, biological anthropology, and archaeology.

The remaining 15 credit hours may be chosen from the subfields below.

Of the required 21 elective hours, at least 9 credit hours must be at, or above, the 500 level.

Biological Anthropology Subfield

Course ranges: 380-389; 580-589; 680-689

ANTH 380 - Introduction to Human Evolution **Credits:** 3
ANTH 383 - Plagues: The Co-Evolutionary History of Humans and Pathogens **Credits:** 3
ANTH 384 - Fundamentals of Forensic Anthropology **Credits:** 3
ANTH 388 - Topics in Physical Anthropology **Credits:** 3
ANTH 588 - Topics in Physical Anthropology **Credits:** 1-4
ANTH 680 - Forensic Anthropology **Credits:** 4
ANTH 681 - Primatology **Credits:** 3
ANTH 682 - Human Growth and Development **Credits:** 3
ANTH 683 - Osteology **Credits:** 4
ANTH 686 - Bioarchaeology **Credits:** 3
ANTH 687 - Seminar in Osteology **Credits:** 2
ANTH 688 - Paleoanthropology **Credits:** 3

Cultural Anthropology Subfield

Course Ranges: 305-319; 505-519; 605-619; 705-719

ANTH 305 - Cultures of South Asia **Credits:** 3
ANTH 310 - Environmental Anthropology: Living with Change in the Anthropocene **Credits:** 3
ANTH 312 - Museums, Cultures, and Collaborations **Credits:** 3
ANTH 314 - Introduction to the World's Religions **Credits:** 3
ANTH 315 - Introduction to Medical Anthropology & Global Health **Credits:** 3
ANTH 316 - Engaged Anthropology **Credits:** 3
ANTH 318 - Topics in Cultural Anthropology **Credits:** 3
ANTH 319 - Food and Culture **Credits:** 3
ANTH 505 - South Asian Civilizations **Credits:** 3
ANTH 508 - Asian Religions **Credits:** 3
ANTH 509 - Cultures of Africa **Credits:** 3
ANTH 510 - New Religions **Credits:** 3
ANTH 513 - Immigrant America **Credits:** 3
ANTH 515 - Creativity and Culture: The Anthropology of Art **Credits:** 3
ANTH 516 - Ethnomusicology **Credits:** 3
ANTH 518 - Topics in Cultural Anthropology **Credits:** 1-4
ANTH 605 - North American Indians **Credits:** 3
ANTH 606 - South American Indians **Credits:** 3
ANTH 612 - Ethnohistory **Credits:** 3
ANTH 613 - Gender, Power, and International Development **Credits:** 3
ANTH 615 - Race and Culture **Credits:** 3
ANTH 616 - Anthropology of the Future: Apocalypse, Prophecy, and Hope **Credits:** 3
ANTH 618 - Religion in Culture **Credits:** 3
ANTH 710 - Writing Cultures: Ethnographic Methods **Credits:** 3
ANTH 715 - Research Methods in Digital Ethnography **Credits:** 3

Archaeology Subfield

Course Ranges: 360-369; 560-569; 660-669

ANTH 364 - Archaeological Myths and Mysteries **Credits:** 3
ANTH 365 - Exploring Kansas Archaeology **Credits:** 3
ANTH 368 - Topics in Archaeology **Credits:** 3
ANTH 560 - Archaeological Fact or Fiction: Applied Critical Thinking **Credits:** 3
ANTH 561 - Archaeological Field Methods **Credits:** 1-9
ANTH 562 - Archaeological Laboratory Methods **Credits:** 3
ANTH 563 - Applied Archaeology **Credits:** 3
ANTH 565 - North American Archaeology **Credits:** 3
ANTH 568 - Topics in Archaeology **Credits:** 1-4
ANTH 663 - Andean Archaeology **Credits:** 3
ANTH 665 - European Archaeology **Credits:** 3

Linguistic Electives:

Course Ranges: 220; 320-329; 520-529; 620-629; 720

ANTH 220 - Introduction to Linguistic Anthropology **Credits:** 3
ANTH 328 - Topics in Linguistic Anthropology **Credits:** 3
ANTH 525 - Language and Culture **Credits:** 3
ANTH 720 - Field Methods in Linguistics **Credits:** 3

Intersubdisciplinary+ Electives

Course Ranges: 350-359; 550-559; 650-659

ANTH 350 - Topics for Educators **Credits:** 1-4
ANTH 351 - Special Studies in Anthropology **Credits:** 1-3
ANTH 352 - Topics in Cultural Heritage and Museum Studies **Credits:** 3
ANTH 353 - Museum Collections Management **Credits:** 3
ANTH 552 - Topics in Cultural Heritage and Museum Studies **Credits:** 3
ANTH 651 - Internship in Applied Anthropology **Credits:** 3
ANTH 652 - Internship in Museology **Credits:** 3
ANTH 659 - Independent Reading and Research in Anthropology **Credits:** 1-3

BA Arts, Humanities, and Social Sciences Requirement: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above **OR** at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

BA Natural and Quantitative Requirement: 6 Credit Hours

One course in each of the following, with at least 3 credit hours total at 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science or Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science: 3 Credit Hours

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 14-27 Credit Hours

In addition to the K-State Core Free Electives requirement, take any course so that the total number of credit hours completed is 120.

Total Hours Required for Graduation: 120

Criminology (BA)

The Criminology program at K-State is designed to give students a broad and comprehensive understanding of academic criminology while also preparing them for careers in fields like policing, criminal investigations, victims services, prison and jail operations, criminal justice research and policy, criminal justice administration, community corrections services, and others.

Students who major in criminology should refer to the general requirements for the B.A. or B.S. degree required for the College of Arts and Sciences.

All criminology students are expected to complete foundational courses (6 credit hours), core criminology courses (13 credit hours), a job skills requirement (1 credit hour), and classes that provide valuable social context (3 credit hours) and cover issues of social inequality (3 credit hours). Students are then required to complete twelve credit hours of criminology electives. Finally, all students are required to complete a "capstone" requirement. Students may choose between two capstone options: (1) an internship track which involves gaining field experience in a criminal justice or related agency, typically completed over a summer (6 credit hours), and (2) a scholarship track designed to prepare students for graduate studies by completing lower-level criminology or sociology graduate courses (6 hours).

Students must earn a 2.5 grade point average in courses taken within the major to graduate.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except ****, etc,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for ****) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Program

Foundation Courses: 6 Credit Hours

If not met through K-State Core requirements, STAT 225 is required.

SOCIO 211 - Introduction to Sociology **Credits:** 3
KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Criminology Fundamental Courses: 10 Credit Hours

CRIM 261 - Introduction to Criminology and Criminal Justice **Credits:** 3
CRIM 364 - Criminological Perspectives **Credits:** 3
SOCIO 423 - Methods of Social Research I **Credits:** 4

Skills Requirement: 1 Credit Hour

CRIM 367 - Real World Criminology **Credits:** 1

Social Context Requirement: 3 Credit Hours

Must select one 3 credit hour course for the following list

SOCIO 260 - Social Problems **Credits:** 3
SOCIO 363 - Global Problems **Credits:** 3
SOCIO 431 - Comparative Social Theories **Credits:** 3
SOCIO 531 - Urban Sociology **Credits:** 3
SOCIO 532 - Our Communities, Our Futures **Credits:** 3

Structural Inequalities Requirement: 3 Credit Hours

Must select one 3 credit hour course from the following list

SOCIO 510 - Social Welfare as a Social Institution **Credits:** 3
SOCIO 541 - Wealth, Power, and Privilege **Credits:** 3
SOCIO 545 - The Sociology of Women **Credits:** 3
SOCIO 570 - Race and Ethnic Relations in the USA **Credits:** 3

Criminology Electives: 12 Credit Hours

Choose 12 credit hours from any CRIM courses (excluding CRIM 261, CRIM 364, CRIM 367, and CRIM 568) or from any of the following ANTH 384, ANTH 680, SOCIO 635, or SOCWK 350

Capstone Requirement: 6 Credit Hours

Students may either take an "internship" or "scholarship" approach to fulfilling this requirement. Each requires 6 credit hours from courses within the following two tracks.

Internship

CRIM 568 - Criminology Internship **Credits:** 6-9

Scholarship

Students will take 6 credit hours of 600 or 700 level Criminology or Sociology Courses OR 3 credits hours of 600 or 700 level Criminology or Sociology Courses and 3 credit hours of senior thesis hours (CRIM 599).

CRIM 599 - Senior Thesis in Criminology **Credits:** 3

BA Arts, Humanities, and Social Sciences Requirement: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

BA Natural and Quantitative Requirement: 3 Credit Hours

One course of the following:

Natural Science or Quantitative course Credits: 3

BA Second Language Requirement: 3 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., Frech 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 11-21 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Social Work (BA)

The bachelor's degree in social work is recognized as a beginning-level professional degree. Students graduating from the social work program are eligible for licensure as bachelor degree social workers in Kansas and numerous other states. No other bachelor's degree is recognized, or necessary, for such eligibility. Students who wish to pursue graduate studies in social work will be eligible for advanced standing in many masters of social work programs throughout the United States.

The intervention tasks performed by social workers are derived from a common base of knowledge, values, and skills. Thus, social workers are uniquely qualified to provide resources, services, and opportunities to individuals, groups, families, organizations, and communities. Students are required to complete a field practice placement during their senior year to integrate classroom material with practice experience in a professional setting.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Social Work,** OR from approved interdisciplinary credentials within the unit. Any overlap with the program is allowed).

OR

Any 9 credit hours in a single prefix (except for **SOCWK**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with the program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Programs

Introductory Courses: 12 Credit Hours

If not met through K-State Core requirements, STAT 225 is required.

ANTH 200 - Introduction to Cultural Anthropology **Credits:** 3
OR
ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3
Fulfills Global Perspectives Overlay requirement
PSYCH 110 - General Psychology **Credits:** 3
POLSC 110 - Introduction to Political Science **Credits:** 3
OR
POLSC 115 - U.S. Politics **Credits:** 3
SOCIO 211 - Introduction to Sociology **Credits:** 3
KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

SOCWK Required Courses: 33-45 Credit Hours

SOCWK 100 - Social Work: The Helping Profession **Credits:** 3
SOCWK 300 - Diversity, Equity, Inclusion, and Belonging in Social Work Practice **Credits:** 3
SOCWK 315 - Human Behavior in the Social Environment I **Credits:** 3
SOCWK 510 - Social Welfare as a Social Institution **Credits:** 3
Fulfills US Multicultural Overlay requirement
SOCWK 530 - Social Work Research and Evaluation Methods **Credits:** 3
SOCWK 550 - Field Practicum Preparation **Credits:** 1-3
Must be taken for 1 credit hour **Credits / Units:** 1
SOCWK 560 - Social Work Practice I **Credits:** 3
SOCWK 561 - Social Work Practice II **Credits:** 3
SOCWK 562 - Field Experience **Credits:** 1-10
Must complete 10 credit hours total
SOCWK 564 - Social Work Professional Seminar **Credits:** 1-2
Must complete 2 credit hours total
SOCWK 568 - Macro Practice and Theory **Credits:** 3
SOCWK 570 - Social Work with Groups **Credits:** 3

Required Electives: 9 credits

Choose 9 credits from the following:

ADC 200, ADC 315, ADC 325, ADC 395, ADC 575, ADC 630, ADC 650

SOCWK 110 to SOCWK 290, SOCWK 310, SOCWK 320, SOCWK 340 to SOCWK 500, SOCWK 610 to SOCWK 700

BA Natural and Quantitative Restricted Electives: 3 Credit Hours (see College catalog page for course lists)

One course in the following, at any level:

Natural Science or Quantitative course: 3 credits

BA Arts, Humanities, and Social Sciences Restricted Electives: 6 Credit Hours (see College catalog page for course lists)

3 credit hours in each of the following, with at least 3 credit hours at 300 or above OR at level with a prerequisite in the same

Fine Arts: 3 credits

Any or combination of courses in Fine Arts

Humanities: 3 credits

BA Second Language Requirement: 3-16 Credit Hours

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language

Option 2: 16 Credit Hours

At least 16 credits of coursework in which a student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 0-19 Credit Hours

Free Electives (in addition to K-State Core #7)

Credit Grand Total for Program of Study: 120

A&S Common Degree Requirements met by advanced SOCWK courses, SOCWK 330 (quantitative social science) and BA Natural and Quantitative, Fine Arts, Humanities, and Second Language Electives

Sociology (BA)

Sociology is the systematic study of social relations at different levels. Sociologists analyze small groups, complex organizations such as bureaucracies or factories, race/ethnic relations, gender relations, communities, nations, and even global social formations. The processes and behaviors sociologists examine include social interaction among individuals, institutional change, social policy formation, criminal and deviant behavior (and responses to such behavior), population growth and distribution, and social change and development.

The sociology program offers major and minor sociology. Sociology provides a desirable background, as either a sole or combined major, for further professional training in law, city planning, public administration, hospital administration, and medicine, as well as for advanced graduate work in sociology or other social sciences. It also prepares students for a wide variety of careers that involve problem-solving and gathering, organizing, and analyzing information (i.e., data). Such careers may involve jobs ranging from sales and management to community services and government work.

Students who major in sociology should refer to the general requirements for the BA or BS degree earlier in the College of Arts and Sciences section of this catalog. Sociology students who desire to teach in secondary schools should prepare for teacher licensure with a major in sociology (see the College of Education section of this catalog).

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except Sociology, Anthropology, and Social Work,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for **ADC, ANTH, CRIM, SOCIO, and SOCWK**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Sociology (Bachelor of Arts) (34 credit hours)

All sociology majors are required to take 10 credit hours of required core courses and 21 credit hours of electives, with 12 of these 21 credit hours at the 500 level or above. In order to graduate with a B.A. degree in Sociology, students are required to earn a 2.5 grade point average in courses taken within the major.

Required courses (13 credit hours)

SOCIO 211 - Introduction to Sociology **Credits:** 3
SOCIO 423 - Methods of Social Research I **Credits:** 4
SOCIO 431 - Comparative Social Theories **Credits:** 3
STAT 225 - Introduction to Statistics **Credits:** 3

Sociology electives (21 credit hours)

Choose 21 credit hours of sociology elective courses (with prefix SOCIO). 12 of these 21 credit hours must be at the 500 level or above. SOCIO 567, SOCIO 568, SOCIO 569 **may not be** used to count toward these required elective hours.

BA Arts, Humanities, and Social Sciences Requirement: 6 Credit Hours

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

One course in Humanities Credits: 3

Any course or combination of courses in Fine Arts Credits: 3

BA Natural and Quantitative Requirement: 3 Credit Hours

One course in the following

Natural Science or Quantitative course Credits: 3

BA Second Language Requirement: 3-16 Credit Hours

Choose one of the following:

Option 1: 3-14 Credit Hours

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: 16 Credit Hours

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: 3 Credit Hours

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: 17-30

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Grand Total for Program of Study: 120

A&S Common Requirements are satisfied by upper level Sociology courses, Methods of Social Research I, and the BA Restricted Electives in Natural and Quantitative Sciences, Humanties, Fine Arts, and Second Language.

Bachelor of Science

Addiction Counseling (BS)

The Bachelor's in Addiction Counseling will equip students with the skills and knowledge to deliver effective rehabilitation services for individuals struggling with addiction. The degree will allow graduates to work with diverse populations in a variety of individual and group settings at correctional facilities, treatment centers, hospitals, clinics, and more.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 or other approved A&S orientation

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except for Sociology, Anthropology, and Social Work**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for ADC, ANTH, CRIM, SOCIO, SOCWK**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with the program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with the program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Programs

Introductions: 9 Credit Hours

SOCIO 211 - Introduction to Sociology **Credits:** 3
PSYCH 110 - General Psychology **Credits:** 3
ANTH 200 - Introduction to Cultural Anthropology **Credits:** 3
OR
ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3

ADC Foundation Courses: 26-27 Credit Hours

ADC 200 - Introduction to Addiction **Credits:** 3
ADC 325 - Professional, Ethical, and Legal Issues in Counseling **Credits:** 3
ADC 395 - Holistic Recovery and Addiction Services Coordination **Credits:** 3
ADC 575 - Addiction and Family **Credits:** 3
ADC 630 - Co-Occurring Disorders and Addictions Treatment **Credits:** 3
ADC 315 - Addiction Pharmacology **Credits:** 3
OR
PSYCH 570 - Psychopharmacology **Credits:** 3
ADC 561 - Methods of Individual Counseling **Credits:** 3
OR
SOCWK 561 - Social Work Practice II **Credits:** 3
ADC 564 - Professional Seminar **Credits:** 2
OR

SOCWK 564 - Social Work Professional Seminar **Credits:** 1-2
ADC 570 - Methods of Group Counseling **Credits:** 3
OR
SOCWK 570 - Social Work with Groups **Credits:** 3

Field Practicum: 6-10 Credit Hours

Choose one field practicum course

ADC 562 - Practicum in Addiction Counseling **Credits:** 3-10
CRIM 568 - Criminology Internship **Credits:** 6-9
HDFS 580 - Human Development Family Science Internship **Credits:** 1-9
PSYCH 587 - Psychology Internship in Mental Health **Credits:** 1-6
SOCIO 568 - Criminology and Sociology Internship **Credits:** 6-9
SOCWK 562 - Field Experience **Credits:** 1-10

Research Methods Courses: 9-10 Credit Hours

Select one of the following options

Option 1

STAT 225 - Introduction to Statistics **Credits:** 3
Choose one of the following:
PSYCH 350 - Experimental Methods in Psychology **Credits:** 3
HDFS 375 - Introduction to Research Methods in Human Development and Family Science **Credits:** 3
SOCIO 423 - Methods of Social Research I **Credits:** 4

Option 2

SOCWK 530 - Social Work Research and Evaluation Methods **Credits:** 3
STAT 225 - Introduction to Statistics **Credits:** 3

BS Natural and Quantitative Restricted Electives: 12-15 Credit Hours

At least two (2) courses at the 300 level or above **OR** at any level with a pre-requisite in the same discipline.

Natural Science Course: 3-5 Credit Hours

Quantitative Course: 3-4 Credit Hours

Natural Science, or Quantitative, or Social Science Course: 6 Credit Hours

Must take at least two courses that have a MATH or STAT prereq

BS Arts, Humanities, and Social Sciences Requirements: 3 Credit Hours

Fine Arts or Humanities: Any course or combination of courses: 3 Credit Hours

Free Electives: 6-11 Credit Hours

In addition to the K-State Core Free Electives requirement, take any course so that the total number of credit hours completed is 120.

Total Hours Required for Graduation: 120

Anthropology (BS)

There are three major subfields of anthropology. Physical anthropology explores the origins of human life and the biological bases of culture. Archaeology examines the development of human cultures from prehistory and ancient civilizations to historic and modern times. Cultural anthropology studies human behavior by surveying the range and variety of cultural traditions throughout the world. Linguistic anthropology focuses on the languages and dialects of the world and the relationships of language to thought and culture. Some anthropology majors generalize, while others specialize in one or more of the subfields. To ensure breadth, our students will need to engage with our program's three core subfields of anthropology: cultural, biological, and archaeology.

Kansas State University Core: 34-36 Credit Hours

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The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except Sociology, Anthropology and Social Work, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for ANTH, ADC, CRIM, SOCIO, SOCWK) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Programs

Introduction and Initiation Course: 13 Credit Hours

ANTH 200 - Introduction to Cultural Anthropology **Credits:** 3
OR
ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3
OR
ANTH 210 - Introduction to Cultural Anthropology, Honors **Credits:** 3
ANTH 260 - Introduction to Archeology **Credits:** 3
ANTH 280 - Introduction to Biological Anthropology **Credits:** 4
ANTH 301 - Initiation to Anthropology **Credits:** 3

Statistics Requirement

If not met through K-State Core requirements, STAT 225 is required.

KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

ANTH Electives: 21 Credit Hours

Majors must take electives in at least two of our three main subfields: cultural anthropology, biological anthropology, and archaeology.

Remaining 15 credit hours may be chosen from any of the below subfields

Of the required 21 elective hours, at least 9 credit hours must be at, or above, the 500 level.

Biological Anthropology: ANTH 380-389; 580-589; 680-689;780-789

Cultural Anthropology: ANTH 305-319; 505-519; 605-619; 705-719

Archaeology Electives: ANTH 360-369; 560-569; 660-669; 760-769

Linguistic Electives: ANTH 220; 320-329; 520-529; 620-629; 720-729

Intersubdisciplinary+: ANTH 350-359; 550-559; 650-659

BS Natural and Quantitative Requirements: 12-15 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course Credits: 3-5

Quantitative course Credits: 3-4

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

BS Arts, Humanities, and Social Sciences Requirements: 3 Credit Hours

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Free Electives: 30 Credit Hours

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Criminology (BS)

The Criminology program at K-State is designed to give students a broad and comprehensive understanding of academic criminology while also preparing them for careers in fields like policing, criminal investigations, victims services, prison and jail operations, criminal justice research and policy, criminal justice administration, community corrections services, and others.

Students who major in criminology should refer to the general requirements for the B.A. or B.S. degree required for the College of Arts and Sciences.

All criminology students are expected to complete foundational courses (6 credit hours), core criminology courses (13 credit hours), a job skills requirement (1 credit hour), and classes that provide valuable social context (3 credit hours) and cover issues of social inequality (3 credit hours). Students are then required to complete twelve credit hours of criminology electives. Finally, all students are required to complete a "capstone" requirement. Students may choose between two capstone options: (1) an internship track which involves gaining field experience in a criminal justice or related agency, typically completed over a summer (6 credit hours), and (2) a scholarship track designed to prepare students for graduate studies by completing lower-level criminology or sociology graduate courses (6 hours).

Students must earn a 2.5 grade point average in courses taken within the major to graduate.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for

institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, **except ****, etc**, OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for ****) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Program

Foundation Courses: 6 Credit Hours

If not met through K-State Core requirements, STAT 225 is required.

SOCIO 211 - Introduction to Sociology **Credits:** 3
KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Criminology Fundamental Courses: 10 Credit Hours

CRIM 261 - Introduction to Criminology and Criminal Justice **Credits:** 3
CRIM 364 - Criminological Perspectives **Credits:** 3
SOCIO 423 - Methods of Social Research I **Credits:** 4

Skills Requirement: 1 Credit Hour

CRIM 367 - Real World Criminology **Credits:** 1

Social Context Requirement: 3 Credit Hours

SOCIO 260 - Social Problems **Credits:** 3
SOCIO 363 - Global Problems **Credits:** 3
SOCIO 431 - Comparative Social Theories **Credits:** 3
SOCIO 531 - Urban Sociology **Credits:** 3
SOCIO 532 - Our Communities, Our Futures **Credits:** 3

Structural Inequalities Requirement: 3 Credit Hours

SOCIO 510 - Social Welfare as a Social Institution **Credits:** 3
SOCIO 541 - Wealth, Power, and Privilege **Credits:** 3
SOCIO 545 - The Sociology of Women **Credits:** 3
SOCIO 570 - Race and Ethnic Relations in the USA **Credits:** 3

Criminology Electives: 12 Credit Hours

Choose 12 credit hours from any CRIM courses (excluding CRIM 261, CRIM 364, CRIM 367, and CRIM 568) or from any of the following ANTH 384, ANTH 680, SOCIO 635, or SOCWK 350

Capstone Requirement: 6 Credit Hours

Students may either take an "internship" or "scholarship" approach to fulfilling this requirement. Each requires 6 credit hours from courses within the following two tracks.

Internship

CRIM 568 - Criminology Internship **Credits:** 6-9

Scholarship

Students will take 6 credit hours of 600 or 700 level Criminology or Sociology Courses. Students may also take 3 credits ours of 600 or 700 level Criminology or Sociology Courses and 3 credit hours of senior thesis hours (CRIM 599).

CRIM 599 - Senior Thesis in Criminology **Credits:** 3

BS Natural and Quantitative Requirements: 9 Credit Hours

One course in each of the following, with at least two courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course Credits: 3

Quantitative course Credits: 3

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

BS Arts, Humanities, and Social Sciences Requirements: 3 Credit Hours

3 credit hours of the following:

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Free Electives: 20

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Social Work (BS)

Social work is concerned with the interaction between people and their social environments. Social workers help people deal with other people, cope with the many social and environmental forces that affect and control daily life, and help solve problems that inhibit growth and development.

The undergraduate social work program is accredited by the Commission on Accreditation of the Council on Social Work Education to educate entry-level, generalist social work practitioners. The social work major is required for students who intend to pursue a career in social work in Kansas and in many other states.

The bachelor's degree in social work is recognized as a beginning-level professional degree. Students graduating from the social work program are eligible for licensure as bachelor degree social workers in Kansas and numerous other states. No other bachelor's degree is recognized, or necessary, for such eligibility. Students who wish to pursue graduate studies in social work will be eligible for advanced standing in many masters of social work programs throughout the United States.

The intervention tasks performed by social workers are derived from a common base of knowledge, values, and skills. Thus, social workers are uniquely qualified to provide resources, services, and opportunities to individuals, groups, families, organizations, and communities. Students are required to complete a field practice placement during their senior year to integrate classroom material with practice experience in a professional setting.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except for Social Work, OR from approved interdisciplinary credentials within the unit. Any overlap with the program is allowed.).

OR

Any 9 credit hours in a single prefix (**except for SOCWK**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with the program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with the program).

Overlays [9] credits

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Program

Introductory Courses; 12 Credit Hours

If not met through K-State Core requirements, STAT 225 is required.

ANTH 200 - Introduction to Cultural Anthropology **Credits:** 3
OR
ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3
POLSC 110 - Introduction to Political Science **Credits:** 3
OR
POLSC 115 - U.S. Politics **Credits:** 3
PSYCH 110 - General Psychology **Credits:** 3
SOCIO 211 - Introduction to Sociology **Credits:** 3
KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

SOCWK Foundation Courses; 42-51 credit hours

SOCWK 100 - Social Work: The Helping Profession **Credits:** 3
SOCWK 300 - Diversity, Equity, Inclusion, and Belonging in Social Work Practice **Credits:** 3

SOCWK 315 - Human Behavior in the Social Environment I **Credits:** 3
SOCWK 510 - Social Welfare as a Social Institution **Credits:** 3
SOCWK 530 - Social Work Research and Evaluation Methods **Credits:** 3
SOCWK 550 - Field Practicum Preparation **Credits:** 1-3
Students take for 1 credit
SOCWK 560 - Social Work Practice I **Credits:** 3
SOCWK 561 - Social Work Practice II **Credits:** 3
SOCWK 562 - Field Experience **Credits:** 1-10
Students must complete 10 credits of SOCWK 562
SOCWK 564 - Social Work Professional Seminar **Credits:** 1-2
Students must complete 2 credits of SOCWK 564
SOCWK 568 - Macro Practice and Theory **Credits:** 3
SOCWK 570 - Social Work with Groups **Credits:** 3

Social Work Electives: 9 Credit Hours

Choose 9 credits from the following:

ADC 200, ADC 315, ADC 325, ADC 395, ADC 575, ADC 630, or ADC 650

SOCWK 110 to SOCWK 290, SOCWK 310, SOCWK 320, SOCWK 340 to SOCWK 500, SOCWK 610 to SOCWK 700

BS Natural and Quantitative Restricted Electives: 6 Credit Hours

One course in each of the following, at any level

Natural Science: 3 credits

Quantitative: 3 credits

BS Arts, Humanities, and Social Sciences Restricted Electives: 3 Credit Hours

3 credit hours the following, at any level

Fine Arts or Humanities: 3 credits

Any course or combination of courses.

Free Electives: 0-4 Credit Hours

Total Hours Required for Graduation: 120

A&S Common Degree Requirements met by advanced SOCWK courses, SOCWK 330 and SOCWK 530 (quantitative social science) and BS Natural and Quantitative, Fine Arts and Humanities Electives

Sociology (BS)

Catalog Description

Sociology is the systematic study of social relations at different levels. Sociologists analyze small groups, complex organizations such as bureaucracies or factories, race/ethnic relations, gender relations, communities, nations, and even global social formations. The processes and behaviors sociologists examine include social interaction among individuals, institutional change, social policy formation, criminal and deviant behavior (and responses to such behavior), population growth and distribution, and social change and development.

The sociology program offers major and minor sociology. Sociology provides a desirable background, as either a sole or combined major, for further professional training in law, city planning, public administration, hospital administration, and medicine, as well as for advanced graduate work in sociology or other social sciences. It also prepares students for a wide variety of careers that involve problem-solving and gathering, organizing, and analyzing information (i.e., data). Such careers may involve jobs ranging from sales and management to community services and government work.

Students who major in sociology should refer to the general requirements for the BA or BS degree earlier in the College of Arts and Sciences section of this catalog. Sociology students who desire to teach in secondary schools should prepare for teacher licensure with a major in sociology (see the College of Education section of this catalog).

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: 1 Credit Hour

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: 9 Credit Hours

Outside credential of at least 9 credit hours (May be from any unit, except for **Sociology, Anthropology, and Social Work**, OR from approved interdisciplinary credentials within the unit. Any overlap with the program is allowed.).

OR

Any 9 credit hours in a single prefix (**except for ADC, SOCIO, CRIM, ANTH, or SOCWK**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: [9] Credit Hours

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Sociology (Bachelor of Science) (34 credit hours)

All sociology majors are required to take 10 credit hours of required core courses and 21 credit hours of electives, with 12 of these 21 credit hours at the 500 level or above. In order to graduate with a B.A. degree in Sociology, students are required to earn a 2.5 grade point average in courses taken within the major.

Required courses (13 credit hours)

SOCIO 211 - Introduction to Sociology **Credits:** 3
SOCIO 423 - Methods of Social Research I **Credits:** 4
SOCIO 431 - Comparative Social Theories **Credits:** 3
STAT 225 - Introduction to Statistics **Credits:** 3

Sociology electives (21 credit hours)

Choose 21 credit hours of sociology elective courses (with prefix SOCIO), with 12 of these 21 credit hours at the 500 level or above. SOCIO 567, SOCIO 568, SOCIO 569 **may not be** used to count toward these required elective hours.

BS Natural and Quantitative Restricted Electives: 9-12 Credit Hours

One course in each of the following, with at least one courses at the 300 level or above OR at any level with a prerequisite in the same discipline.

Natural Science course Credits: 3-5

Quantitative course Credits: 3-4

Natural Science, or Quantitative, or Social Science w/MATH or STAT prereq Credits: 3

BS Arts, Humanities, and Social Sciences Restricted Electives: 3 Credit Hours

3 credit hours in each of the following, at any level

Fine Arts or Humanities: Any course or combination of courses Credits: 3

Free Electives - 37-30

Take any courses so that the total credit hours completed equals 120.

Credit Grand Total for Program of Study: 120

A&S Common Requirements are satisfied by upper level Sociology courses, Methods of Social Research I, and the BS Restricted Electives in Natural and Quantitative Sciences, and Humanties and Fine Arts

Minor

Anthropology Minor

Program requirements

Introductory courses (6 credit hours)

Select two of the four introductory courses to the field:

ANTH 200 - Introduction to Cultural Anthropology **Credits:** 3
or
ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3
or
ANTH 210 - Introduction to Cultural Anthropology, Honors **Credits:** 3
ANTH 220 - Introduction to Linguistic Anthropology **Credits:** 3
ANTH 260 - Introduction to Archeology **Credits:** 3
ANTH 280 - Introduction to Biological Anthropology **Credits:** 4

Advanced anthropology courses (12 credit hours)

Select four advanced electives (300 level or above)

Total credit hours: (18)

Medical Anthropology Minor

Medical anthropology sheds light on human health, medicine, and well-being through our disciplinary subfields (biological anthropology, cultural anthropology, applied anthropology, linguistic anthropology, and archaeology). This framework uses anthropology to explore how health is impacted by cultural factors (including religious beliefs, history, politics, globalization, socioeconomic conditions, inequality, e.g.), as well as the co-evolution of humans and pathogens and other sociobiological phenomena. Medical anthropology utilizes all the tools and methods at our disposal to best understand human health cultures and phenomena for all peoples past and present throughout the world.

*Students may get a Medical Anthropology minor or a general Anthropology minor, but not both.

To graduate with this minor, a minimum GPA of 2.500 must be earned in *all anthropology courses*.

Program requirements

Introductory courses: (7 credit hours)

Introduction to Biological Anthropology required and one additional 3 Credit Hour introductory course

ANTH 280 - Introduction to Biological Anthropology **Credits:** 4
AND
ANTH 200 - Introduction to Cultural Anthropology **Credits:** 3
OR
ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3
OR
ANTH 210 - Introduction to Cultural Anthropology, Honors **Credits:** 3

Advanced anthropology courses:

Foundational courses: (3 credit hours)

Take at least one foundation course from the option below:

ANTH 315 - Introduction to Medical Anthropology & Global Health **Credits:** 3
ANTH 383 - Plagues: The Co-Evolutionary History of Humans and Pathogens **Credits:** 3

Advanced Course options: (9 credit hours)

Take at least 9 other credits at the 300-level or above from this list of medical anthropology courses (the second foundational course may be used).

ANTH 315 - Introduction to Medical Anthropology & Global Health **Credits:** 3
ANTH 319 - Food and Culture **Credits:** 3
ANTH 383 - Plagues: The Co-Evolutionary History of Humans and Pathogens **Credits:** 3
ANTH 384 - Fundamentals of Forensic Anthropology **Credits:** 3
ANTH 514 - Narrative Medicine **Credits:** 3
ANTH 680 - Forensic Anthropology **Credits:** 4
ANTH 682 - Human Growth and Development **Credits:** 3
ANTH 683 - Osteology **Credits:** 4
ANTH 710 - Writing Cultures: Ethnographic Methods **Credits:** 3
ANTH 318, ANTH 388, ANTH 651, ANTH 659, or ANTH 715 must be approved for this minor on a case-by-case basis; the class must have a preponderance of work in the area of medicine in society. ANTH 318 - Topics in Cultural Anthropology **Credits:** 3
ANTH 388 - Topics in Physical Anthropology **Credits:** 3
ANTH 651 - Internship in Applied Anthropology **Credits:** 3
ANTH 659 - Independent Reading and Research in Anthropology **Credits:** 1-3
ANTH 715 - Research Methods in Digital Ethnography **Credits:** 3

Total credit hours: 19

Sociology Minor

The Sociology minor will complement other majors and minors across the University. The Sociology minor is in high demand among students seeking additional training in global citizenship, pre-health, law, Political Science, Psychology, Business, Agricultural Economics, and Social Transformation Studies. It will also enable students seeking certificates to double or triple minor. Many students pursuing the Conflict Resolution Certificate and Conflict Analysis/Trauma Studies minor will readily be

able to secure a second minor in Sociology. The Sociology minor will build synergy between a variety of programs and provide students with more options for both expanding and tailoring their studies to meet their academic and career goals.

GPA and Course Requirements: 15 credits

Students interested in a minor in Sociology are required to earn a minimum 2.5 grade point average in all courses taken for minor credit.

Courses: 6 credits hours

Required:

SOCIO 211 - Introduction to Sociology **Credits:** 3

Select one:

SOCIO 260 - Social Problems **Credits:** 3

SOCIO 363 - Global Problems **Credits:** 3

Electives: 9 credits hours

SOCIO 260 - Social Problems **Credits:** 3
SOCIO 301 - Topics in Sociology **Credits:** 1-18
SOCIO 363 - Global Problems **Credits:** 3
SOCIO 435 - Sport and Contemporary Society **Credits:** 3
SOCIO 440 - Social Organization **Credits:** 3
SOCIO 450 - Introduction to Social Interaction **Credits:** 3
SOCIO 500 - Sociological Perspectives on Contemporary Issues **Credits:** 1-3
SOCIO 504 - Political Sociology **Credits:** 3
SOCIO 507 - International Development and Social Change **Credits:** 3
SOCIO 510 - Social Welfare as a Social Institution **Credits:** 3
SOCIO 522 - Community Engaged Research and Evaluation **Credits:** 3-6
SOCIO 531 - Urban Sociology **Credits:** 3
SOCIO 532 - Our Communities, Our Futures **Credits:** 3
SOCIO 533 - Society, Food, and Agriculture **Credits:** 3
SOCIO 536 - Society and Natural Resources **Credits:** 3
SOCIO 537 - Sociology of Emotions **Credits:** 3
SOCIO 538 - Sociology of Culture **Credits:** 3
SOCIO 540 - Sexuality and Society **Credits:** 3
SOCIO 541 - Wealth, Power, and Privilege **Credits:** 3
SOCIO 546 - Bureaucracy in Modern Societies **Credits:** 3
SOCIO 545 - The Sociology of Women **Credits:** 3
SOCIO 565 - Program and Policy Formulation and Analysis **Credits:** 3
SOCIO 570 - Race and Ethnic Relations in the USA **Credits:** 3
SOCIO 599 - Senior Thesis in Sociology **Credits:** 3-6
SOCIO 633 - Gender, Power, and Development **Credits:** 3
SOCIO 640 - Sociology of the Family **Credits:** 3
SOCIO 643 - Sociology of Religion **Credits:** 3
SOCIO 635 - Sociology of Human Trafficking **Credits:** 3
SOCIO 645 - Post-Communist Societies **Credits:** 3
SOCIO 647 - Sociology of Work **Credits:** 3

SOCIO 670 - Diversity and Social Interaction in the Workplace **Credits:** 3
SOCIO 701 - Problems in Sociology **Credits:** 1-18
SOCIO 738 - International Migration **Credits:** 3

Total credit hours: 15

Undergraduate Certificate

Forensic Studies Undergraduate Certificate

The certificate in Forensic Studies is designed to expose students to a diverse array of academic fields related to the physiological, technological, and legal processes of evidence identification, gathering, and processing. The curriculum provides students with a foundational level of knowledge in forensics that may inform careers in investigations including law enforcement, risk reduction, internal investigations, human resources, and the like. The certificate includes a diverse assortment of classes from across the university to allow students to tailor their curriculum to their interests.

Category A (Minimum 6 credit hours)

At least 6 credit hours must come from courses in Category A

ANTH 384 - Fundamentals of Forensic Anthropology **Credits:** 3
ANTH 680 - Forensic Anthropology **Credits:** 4
CHM 372 - Forensic Chemistry and Criminalistics **Credits:** 3
CRIM 482 - Criminal Procedure and Investigations **Credits:** 3

Category B (3-9 credit hours)

ANTH 683 - Osteology **Credits:** 4
BIOCH 110 - Biochemistry and Society **Credits:** 3
BIOL 441 - Human Body I **Credits:** 4
BIOL 443 - Applied Anatomy of Cadavers **Credits:** 3
CRIM 261 - Introduction to Criminology and Criminal Justice **Credits:** 3

Total hours required: 15

Students seeking a certificate in Forensic Studies are required to complete 15 credit hours from these courses, at least 6 of which must come from courses in Category A.

Global Health, Medicine, and Society Undergraduate Certificate

The certificate requires a minimum of 15 hours (at least 9 credits must be taken at the 300 level or above) that are passed with a C or better for 2.5 GPA or higher.

Except in exceptional cases, courses cannot be taken pass/fail.

Students must complete a minimum of 5 different courses from two categories: core and electives. Electives must be taken in at least two different academic programs.

Core in Global Health, Medicine, and Society

Students must take one of the following two courses focused on global health for three credits.

ANTH 315 - Introduction to Medical Anthropology & Global Health **Credits:** 3
ANTH 383 - Plagues: The Co-Evolutionary History of Humans and Pathogens **Credits:** 3

Electives in the Medical Humanities and Social Science of Health

AGRON 325 - World Food Crops **Credits:** 3
*** AMETH 351 - African American Perspectives **Credits:** 3 (when taught as Topic: Sex and HIV/AIDS in the African American Community)
ANTH 315 - Introduction to Medical Anthropology & Global Health **Credits:** 3
ANTH 383 - Plagues: The Co-Evolutionary History of Humans and Pathogens **Credits:** 3
*** ANTH 388 - Topics in Physical Anthropology **Credits:** 3 [ANTH Biological Anthro Topics, if "Nutritional Anthropology"]
ANTH 680 - Forensic Anthropology **Credits:** 4
ANTH 682 - Human Growth and Development **Credits:** 3
ANTH 710 - Writing Cultures: Ethnographic Methods **Credits:** 3
BIOCH 110 - Biochemistry and Society **Credits:** 3
BIOL 330 - Public Health Biology **Credits:** 3
CLSCS 105 - Medical Terminology: Latin and Greek for Scientists **Credits:** 2
DMP 650 - Fundamentals of Public Health and Food Safety **Credits:** 3
DMP 710 - Introduction to One Health **Credits:** 2
ECON 688 - Health Economics **Credits:** 3
ENGL 392 - Literature and the Body **Credits:** 3
FNDH 110 - Introduction to Public Health **Credits:** 3 [KIN 230, DMP 110]
FNDH 115 - Introduction to Health and Nutrition Professions **Credits:** 3
FNDH 311 - Health Promotion and Behavior **Credits:** 3
FNDH 600 - Public Health Nutrition **Credits:** 3
FNDH 700 - Global Health and Nutrition **Credits:** 3
GENAG 225 - Fundamentals of Global Food Systems Leadership **Credits:** 3 [LEAD 225, DAS 325]
GENAG 325 - Uncertainty in Global Food Systems Leadership **Credits:** 3 [LEAD 325, DAS 325]
GWSS 365 - Reproductive Rights and Wrongs **Credits:** 3
GWSS 375 - Disability Justice and Gender **Credits:** 3
GWSS 435 - Race/Sex/Science **Credits:** 3
GEOG 460 - Human Dimensions of Global Change **Credits:** 3
*** GEOG 790 - Seminar in Geography **Credits:** 1-3 [Topics, if "Population and Health Geography"]
HDFS 301 - Interpersonal Skills for Helping Professionals **Credits:** 3
HIST 520 - Death and Dying in History **Credits:** 3
HIST 534 - Social History of Medicine **Credits:** 3
KIN 318 - Rural Community Health **Credits:** 3
KIN 418 - Social Determinants and Diversity in Public Health **Credits:** 3
MC 451 - Health Communication **Credits:** 3
MC 750 - Strategic Health Communication **Credits:** 3
PHILO 365 - Medical Ethics **Credits:** 3
PHILO 501 - Perspectives on Science **Credits:** 3
POLSC 643 - Global Human Rights **Credits:** 3

PSYCH 518 - Introduction to Health Psychology **Credits:** 3
SOCIO 533 - Society, Food, and Agriculture **Credits:** 3
SOCIO 544 - Social Gerontology: An Introduction to the Sociology of Aging **Credits:** 3
SOCIO 633 - Gender, Power, and Development **Credits:** 3
SPAN 531 - Professional Spanish: Health and Human Services **Credits:** 3

Notes:

*** Topics classes with a strong social scientific or humanistic take on health from any department can be considered for inclusion in a student's certificate program on a case-by-case basis. The topics classes listed above are grandfathered in.

Total credit hours required: 15

Museum Studies Undergraduate Certificate

The Museum Studies certificate charts a path for students to gain the knowledge and experience needed to embark on a career path in museum work through interdisciplinary study in museology, incorporating museum anthropology, art history, history, collections management and more.

Note: 15 credits must come from at least two different academic programs.

Museum Program Courses: (9 Credit Hours)

Note: Up to 15 credit hours permitted; internship strongly recommended.

ANTH 312 - Museums, Cultures, and Collaborations **Credits:** 3
ANTH 352 - Topics in Cultural Heritage and Museum Studies **Credits:** 3
ANTH 353 - Museum Collections Management **Credits:** 3
ANTH 515 - Creativity and Culture: The Anthropology of Art **Credits:** 3
ANTH 552 - Topics in Cultural Heritage and Museum Studies **Credits:** 3
ANTH 562 - Archaeological Laboratory Methods **Credits:** 3
ANTH 652 - Internship in Museology **Credits:** 3
ANTH 659 - Independent Reading and Research in Anthropology **Credits:** 1-3
ART 112 - Professional Practices in the Arts **Credits:** 3
ART 305 - Introduction to Museum Studies **Credits:** 3
ART 582 - Internships in Visual Art & Design **Credits:** 0-3
ART 606 - Visual Art Administration & Leadership **Credits:** 3
DAS 388 - Honors Internship **Credits:** 1-3
HIST 650 - Internship in History **Credits:** 3

Electives: (6 Credit Hours)

Note: None required, but up to 6 credit hours permitted; only one course allowed per category.

Category 1: Material Objects and Cultural Heritage - Archaeology
ANTH 364 - Archaeological Myths and Mysteries **Credits:** 3
ANTH 365 - Exploring Kansas Archaeology **Credits:** 3
ANTH 368 - Topics in Archaeology **Credits:** 3

ANTH 560 - Archaeological Fact or Fiction: Applied Critical Thinking **Credits:** 3
ANTH 561 - Archaeological Field Methods **Credits:** 1-9
ANTH 563 - Applied Archaeology **Credits:** 3
ANTH 565 - North American Archaeology **Credits:** 3
ANTH 568 - Topics in Archaeology **Credits:** 1-4
ANTH 663 - Andean Archaeology **Credits:** 3
ANTH 665 - European Archaeology **Credits:** 3
ANTH 683 - Osteology **Credits:** 4

Category 2 - Material and Aesthetic Studies - Art History

ART 545 - Twentieth Century Art History I: Post-Impressionism to Cubism **Credits:** 3
ART 550 - Twentieth Century Art History II: Dada to Surrealism **Credits:** 3
ART 601 - Graphic Design History/Theory/Criticism **Credits:** 3
ART 602 - Twentieth Century Art History III: Abstract Expressionism to Pop Art **Credits:** 3
ART 603 - Twentieth Century Art History IV: Conceptual Art to Contemporary Art **Credits:** 3
ART 608 - Special Studies in Art **Credits:** 3
ART 612 - History of Italian Renaissance Art **Credits:** 3
ART 613 - History of Northern Renaissance Art **Credits:** 3
ART 614 - Italian Renaissance Architecture: Patronage and Construction **Credits:** 3
ART 622 - Baroque Art History **Credits:** 3
ART 628 - Foreign Studies in Art History **Credits:** 3-6
ART 634 - History of Modern Sculpture **Credits:** 3
ART 675 - History of Ceramics **Credits:** 3

Category 3 - Nonprofit Management

CDPLN 713 - Nonprofit Management **Credits:** 3
LEAD 420 - Theories of Nonprofit Leadership **Credits:** 3
MANGT 450 - Non-Profit Management **Credits:** 3

Total Hours Required for Graduation: 15

Religious Studies Undergraduate Certificate

Requirements for a Religious Studies certificate will consist of 15 credits; Intro to the World's Religions (ANTH 314); and a minimum of 12 additional elective credit hours in at least two disciplines, of which at least 6 credits must be at the 500 level or higher. To earn the certificate, religious studies courses must result in a final cumulative GPA of 2.5 or better.

Core (3 credit hours)

ANTH 314 - Introduction to the World's Religions **Credits:** 3

Electives (12 credit hours)

ANTH 305 - Cultures of South Asia **Credits:** 3
ANTH 509 - Cultures of Africa **Credits:** 3
ANTH 515 - Creativity and Culture: The Anthropology of Art **Credits:** 3
ANTH 508 - Asian Religions **Credits:** 3
ANTH 616 - Anthropology of the Future: Apocalypse, Prophecy, and Hope **Credits:** 3

ANTH 618 - Religion in Culture **Credits:** 3
* ANTH 710 - Writing Cultures: Ethnographic Methods **Credits:** 3
* ANTH 715 - Research Methods in Digital Ethnography **Credits:** 3
* ANTH 720 - Field Methods in Linguistics **Credits:** 3
ART 195 - Survey of Western Art History I **Credits:** 3
ART 196 - Survey of Western Art History II **Credits:** 3
ART 612 - History of Italian Renaissance Art **Credits:** 3
ART 613 - History of Northern Renaissance Art **Credits:** 3
CLSCS 310 - Introduction to Classical Mythology in Translation **Credits:** 3
ENGL 233 - Reformation to Enlightenment **Credits:** 3
ENGL 470 - The Bible **Credits:** 3
ENGL 575 - Holocaust Literature **Credits:** 3
HIST 520 - Death and Dying in History **Credits:** 3
HIST 521 - History of Christianity **Credits:** 3
HIST 522 - Religion in American History **Credits:** 3
HIST 523 - A History of the Occult and Witchcraft **Credits:** 3
HIST 569 - The Reformation **Credits:** 3
HIST 585 - Medieval Christianity **Credits:** 3
PHILO 115 - Introduction to Philosophy of Religion **Credits:** 3
PHILO 337 - Religious Freedom and Democracy **Credits:** 3
PHILO 615 - Philosophy of Religion **Credits:** 3
POLSC 524 - Political Islam **Credits:** 3
POLSC 661 - Ancient and Medieval Political Thought **Credits:** 3
POLSC 675 - Religion and Politics **Credits:** 3
SOCIO 505 - South Asian Civilizations **Credits:** 3
SOCIO 618 - Religion in Culture **Credits:** 3
SOCIO 643 - Sociology of Religion **Credits:** 3
SOCIO 742 - Society and Change in South Asia **Credits:** 3

*Courses with asterisks are methods courses that permitted to count for the Religious Studies certificate only if the semester–long student research project is focused upon a religious studies topic.

**NOTE: Students can petition to transfer in up to half of their credits with relevant religious studies classes from outside K-State, if each specific transferred course directly substitutes for a specific course on the approved list above. Since this is not a Theology certificate, theology classes (and classes from religious institutions that are teaching religion from an internal, liturgical, non-academic point of view) are not eligible to transfer in as part of the certificate.

Total hours required: 15

Other Program Choices

Addiction Counseling (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ADC 200 - Introduction to Addiction	3		

COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
Arts and Humanities Requirement	3	**KSC 060**	
DAS ***	1		
Free Elective {Institutionally Designated Area}	1	**KSC 070**	
Total Credits: 14			
Semester 2			
ADC 315 - Addiction Pharmacology **OR**	3		
PSYCH 570 - Psychopharmacology	3		
Arts and Humanities Requirement	3	**KSC 060**	
STAT 225 - Introduction to Statistics	3	**KSC 030**	
Natural and Physical Sciences Requirement	4	**KSC 040**	
Total Credits: 13			
Second Year			
Semester 1			
MATH 100 - College Algebra	3		
ENGL 200 - Expository Writing II	3	**KSC 010**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Free Elective {Institutionally Designated Area}	2	**KSC 070**	
Free Elective	3		
Total Credits: 14			
Semester 2			

ADC 325 - Professional, Ethical, and Legal Issues in Counseling	3	
Outside Concentration 1	3	
Social and Behavioral Sciences Requirement	3	**KSC 050**
Free Elective	3	
Free Elective	3	
Total Credits: 15		
Third Year		
Semester 1		
ADC 395 - Holistic Recovery and Addiction Services Coordination	3	
PSYCH 110 - General Psychology	3	
SOCIO 211 - Introduction to Sociology	3	
Natural Science Elective	3	
Arts or Humanities Elective	3	
Natural or Quant Science	3	
Free Elective	3	
Total Credits: 21		
Semester 2		
ADC 575 - Addiction and Family	3	
ADC 570 - Methods of Group Counseling	3	
ADC 561 - Methods of Individual Counseling	3	
SOCWK 330 - Social Work Research Methods and Analysis I	3	
SOCWK 510 - Social Welfare as a Social Institution	3	
Outside Concentration 2	3	

Total Credits: 18			
Fourth Year			
Semester 1			
ADC 630 - Co-Occurring Disorders and Addictions Treatment	3		
ANTH 204 - A General Education Introduction to Cultural Anthropology	3		
SOCWK 530 - Social Work Research and Evaluation Methods	3		
ADC 561 - Methods of Individual Counseling	3		
Outside Concentration 3	3		
Free Elective	3		
Total Credits: 18			
Semester 2			
ADC 562 - Practicum in Addiction Counseling	3-10		
ADC 564 - Professional Seminar	2		
Total Credits: 12			
Total Program Hours: 120			

Anthropology (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
ANTH 204 - A General Education Introduction to Cultural Anthropology	3	**KSC 050**
Second Language	4	

ANTH 260 - Introduction to Archeology	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 14		
Semester 2		
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Second Language	4	
ANTH 280 - Introduction to Biological Anthropology	4	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 14		
Second Year		
Semester 1		
ANTH Elective	3	
Second Language	3	
COMM 106 - Public Speaking I	3	**KSC 020**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
ANTH 301 - Initiation to Anthropology	3	
Second Language	3	
Humanities Elective	3	

ENGL 200 - Expository Writing II	3	**KSC 010**
STAT 225 - Introduction to Statistics	3	**KSC 030**
Total Credits: 15		
Third Year		
Semester 1		
ANTH Elective	3	
Arts & Humanities Requirement	3	**KSC 060**
Outside Concentration	3	
Ethical Reasoning Overlay	3	
Fine Arts Elective **OR**	3	
Humanities Elective to be 300 level or above or course w/ prereq in the same area	3	
Total Credits: 15		
Semester 2		
ANTH Elective	3	
ANTH Elective	3	
Outside Concentration	3	
Free Elective	3	
Natural Science & Physical Science	4	**KSC 040**
Total Credits: 16		
Fourth Year		
Semester 1		
ANTH Elective - ANTH 500+	3	

Outside Elective	3		
ANTH Elective - ANTH 500+	3		
Natural Science Elective -300 level or above or course w/ prereq in the same area **OR**	3		
Quantitative Elective - 300 level or above or course w/ prereq in the same area **OR**	3		
Social Science Elective with MATH or STAT pre-req - 300 level or above or course w/ prereq in the same area	3		
US Multicultural Overlay	3		
Total Credits: 15			
Semester 2			
ANTH Elective - ANTH 500+	3		
Outside Concentration/Free Elective	3		
Outside Concentration/Free Elective	3		
Global Perspectives Overlay	3		
Free Elective	3		
Free Elective	1		
Total Credits: 16			
Total Program Hours: 120			

Anthropology (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ANTH 204 - A General Education Introduction to Cultural Anthropology	3	**KSC 050**	
Quantitative Req	4		

ANTH 260 - Introduction to Archeology	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 14		
Semester 2		
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Natural/Quantitative Req	4	
ANTH 280 - Introduction to Biological Anthropology	4	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 14		
Second Year		
Semester 1		
ANTH Elective	3	
Natural Req/Quantitative Req	3	
COMM 106 - Public Speaking I	3	**KSC 020**
Social & Behavioral Sciences Requirement	3	**KSC 050**
STAT 225 - Introduction to Statistics	3	**KSC 030**
Total Credits: 15		
Semester 2		
ANTH 301 - Initiation to Anthropology	3	
Outside Concentration	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**

ENGL 200 - Expository Writing II	3	**KSC 010**
Free Elective {Institutionally Designated Area}	3	
Total Credits: 15		
Third Year		
Semester 1		
ANTH Elective	3	
Arts & Humanities Requirement	3	**KSC 060**
Outside Concentration	3	
Ethical Reasoning Overlay	3	
Fine Arts Elective **OR**	3	
Humanities Elective to be 300 level or above or course w/ prereq in same area	3	
Total Credits: 15		
Semester 2		
ANTH Elective	3	
ANTH Elective	3	
Outside Concentration	3	
Humanities Elective	3	
Natural Science Elective	4	**KSC 040**
Total Credits: 16		
Fourth Year		
Semester 1		
ANTH Elective	3	

Free Elective	3		
ANTH Elective	3		
Natural Science Elective - 300+ or course w/prereq in the same area **OR**	3		
Quantitative Elective - 300+ or course w/prereq in the same area **OR**	3		
Social Science Elective with MATH OR STAT pre-req - 300+ or course w/prereq in the same area	3		
US Multicultural Overlay	3		
Total Credits: 15			
Semester 2			
ANTH Elective - ANTH 500+	3		
Outside Concentration	3		
Outside Concentration	3		
Global Perspectives Overlay	3		
Free Elective	3		
Free Elective	1		
Total Credits: 16			
Total Program Hours: 120			

Criminology (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	

CRIM 261 - Introduction to Criminology and Criminal Justice	3	**KSC 050**
MATH 100 - College Algebra	3	**KSC 030**
First Foreign Language - Level I	4	
Total Credits: 14		
Semester 2		
PHILO 130 - Introduction to Moral Philosophy (Ethical Reasoning Overlay)	3	**KSC 060**
COMM 106 - Public Speaking I	3	**KSC 020**
SOCIO 211 - Introduction to Sociology	3	
First Foreign Language - Level II	4	
CRIM Elective I	3	
Total Credits: 16		
Second Year		
Semester 1		
STAT 225 - Introduction to Statistics	3	
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
Natural and Physical Sciences Requirement	4-5	**KSC 040**
First Foreign Language - Level III or Second Foreign Language - Level I	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
CRIM 364 - Criminological Perspectives	3	

SOCIO 423 - Methods of Social Research I	4	
CRIM 367 - Real World Criminology	1	
First Foreign Language - Level IV or Second Foreign Language - Level II	3	
Arts and Humanities Requirements	3	**KSC 060**
Total Credits: 14		
Third Year		
Semester 1		
SOCIO 510 - Social Welfare as a Social Institution (US Multicultural Overlay / Structural Inequalities Requirement)	3	
Fine Arts - Restrictive Elective	3	
Social and Behavioral Requirement (Second Subject Area)	3	**KSC 050**
Humanities Restrictive Elective	3	
Outside Concentration	3	
Total Credits: 15		
Semester 2		
SOCIO 363 - Global Problems (Global Perspectives Overlay)	3	
CRIM Elective II	3	
Non-Quantitative Social Sciences Restrictive Elective	3	
Outside Concentration	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Fourth Year		
Semester 1		

CRIM Elective III	3	
CRIM Elective IV	3	
Natural/Quantitative Restrictive Elective	3	
Outside Concentration	3	
Free Elective	3	
Total Credits: 15		
Semester 2		
CRIM 568 - Criminology Internship	6-9	
Free Elective	3	
Free Elective	3	
Free Elective	3	
Total Credits: 15		
Total Program Hours: 120		

Criminology (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
CRIM 261 - Introduction to Criminology and Criminal Justice	3	**KSC 050**
ENGL 100 - Expository Writing I	3	**KSC 010**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
MATH 100 - College Algebra	3	**KSC 030**
PHILO 130 - Introduction to Moral Philosophy	3	**KSC 060**
Total Credits: 13		

Semester 2		
SOCIO 211 - Introduction to Sociology	3	
CRIM Elective I	3	
COMM 106 - Public Speaking I	3	**KSC 020**
Natural and Physical Sciences Requirement	4-5	**KSC 040**
Free Elective	2	
Total Credits: 15		
Second Year		
Semester 1		
STAT 225 - Introduction to Statistics	3	
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
CRIM Elective II	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
CRIM 364 - Criminological Perspectives	3	
CRIM 367 - Real World Criminology	1	
SOCIO 423 - Methods of Social Research I	4	
Arts and Humanities	3	**KSC 060**
Free Elective	2	

Free Elective	3	
Total Credits: 16		
Third Year		
Semester 1		
SOCIO 510 - Social Welfare as a Social Institution	3	
Arts and Humanities Restrictive Elective	3	
Natural / Quantitative / Social Science	3	
Outside Concentration	3	
Free Elective	3	
Total Credits: 16		
Semester 2		
SOCIO 363 - Global Problems (Global Perspectives Overlay)	3	
CRIM 463 - Gangs in American Society (CRIM Elective III / US Multicultural Overlay)	3	
Natural/Quantitative Restrictive Elective	3	
Free Elective	3	
Social and Behavioral Sciences Requirement (Second Subject Area)	3	**KSC 050**
Total Credits: 15		
Fourth Year		
Semester 1		
CRIM Elective IV	3	
Natural Science Restrictive Elective	3	
Outside Concentration	3	

Outside Concentration	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
CRIM 568 - Criminology Internship	6-9		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			
Total Program Hours: 120			

Social Work (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 100 - Expository Writing I	3	**KSC 010**
SOCWK 141 - First Year Orientation	1	
SOCWK 100 - Social Work: The Helping Profession	3	
First Foreign Language - Level I	4	**KSC 060**
Total Credits: 14		
Semester 2		

ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
First Foreign Language - Level II	4	
STAT 225 - Introduction to Statistics	3	**KSC 030**
Natural & Physical Sciences Requirement	4	**KSC 040**
Free Elective	1	
Total Credits: 15		
Second Year		
Semester 1		
PSYCH 110 - General Psychology	3	
SOCWK 300 - Diversity, Equity, Inclusion, and Belonging in Social Work Practice	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
First Foreign Language - Level III or Second Foreign Language - Level I	3	
Free Elective	3	**KSC 070**
Total Credits: 15		
Semester 2		
SOCWK 315 - Human Behavior in the Social Environment I	3	
First Foreign Language - Level IV or Second Foreign Language - Level II	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Outside Concentration	3	
SOCWK Elective	3	
Total Credits: 15		

Third Year		
Semester 1		
POLSC 110 - Introduction to Political Science	3	
Outside Concentration	3	
Fine Arts - Restrictive Elective and Ethical Reasoning Overlay	3	**KSC 070**
SOCWK Elective	3	
SOCIO 211 - Introduction to Sociology	3	
Total Credits: 15		
Semester 2		
Natural or Quantitative Course	3	
SOCWK 510 - Social Welfare as a Social Institution - US Multicultural Overlay	3	
SOCWK 560 - Social Work Practice I	3	
SOCWK 568 - Macro Practice and Theory	3	
Outside Concentration	3	
Humanities Restrictive Elective	3	**KSC 060**
Total Credits: 18		
Fourth Year		
Semester 1		
SOCWK 530 - Social Work Research and Evaluation Methods	3	
ANTH 204 - A General Education Introduction to Cultural Anthropology - Global Perspectives Overlay	3	
SOCWK 561 - Social Work Practice II	3	
SOCWK 570 - Social Work with Groups	3	
SOCWK 550 - Field Practicum Preparation	1-3	

SOCWK Elective	3	
Total Credits: 16		
Semester 2		
SOCWK 562 - Field Experience	1-10	
SOCWK 564 - Social Work Professional Seminar	1-2	
Total Credits: 12		
Total Program Hours: 120		

Social Work (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
Arts & Humanities Requirement	3	**KSC 060**
COMM 106 - Public Speaking I	3	**KSC 020**
SOCWK 100 - Social Work: The Helping Profession	3	**KSC 050**
SOCWK 141 - First Year Orientation	1	
Free Elective	1	
Total Credits: 14		
Semester 2		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**

Arts & Humanities Requirement	3	**KSC 060**
STAT 225 - Introduction to Statistics	3	**KSC 030**
Natural & Physical Sciences Requirement	4-5	**KSC 040**
Total Credits: 13		
Second Year		
Semester 1		
SOCWK 300 - Diversity, Equity, Inclusion, and Belonging in Social Work Practice	3	
PSYCH 110 - General Psychology	3	**KSC 050**
Social & Behavioral Sciences Requirement	3	
SOCWK Elective	2	
Free Elective	3	**KSC 070**
Total Credits: 14		
Semester 2		
SOCWK 315 - Human Behavior in the Social Environment I	3	
Outside Concentration	3	
Social & Behavioral Sciences Requirement	3	
POLSC 110 - Introduction to Political Science	3	
ANTH 204 - A General Education Introduction to Cultural Anthropology - Global Perspectives Overlay	3	
Total Credits: 15		
Third Year		
Semester 1		
SOCIO 211 - Introduction to Sociology	3	

Outside Concentration	3	
Arts or Humanities Elective - Ethical Reasoning Overlay	3	
Natural/Quantitative Restrictive Elective	3	
Free Elective	3	**KSC 070**
Free Elective	3	
Total Credits: 18		
Semester 2		
Natural or Quantitative Requirement	3	
SOCWK 510 - Social Welfare as a Social Institution - US Multicultural Overlay	3	
SOCWK 560 - Social Work Practice I	3	
SOCWK 568 - Macro Practice and Theory	3	
Outside Concentration	3	
Natural/Quantitative Restrictive Elective	3	
Total Credits: 18		
Fourth Year		
Semester 1		
SOCWK 530 - Social Work Research and Evaluation Methods	3	
SOCWK 550 - Field Practicum Preparation	1-3	
SOCWK 561 - Social Work Practice II	3	
SOCWK 570 - Social Work with Groups	3	
SOCWK Elective	3	
Free Elective	3	
Total Credits: 16		

Semester 2		
SOCWK 564 - Social Work Professional Seminar	1-2	
SOCWK 562 - Field Experience	1-10	
Total Credits: 12		
Total Program Hours: 120		

Sociology (BA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
SOCIO 211 - Introduction to Sociology	3	**KSC 050**
STAT 225 - Introduction to Statistics	3	**KSC 030**
ENGL 100 - Expository Writing I	3	**KSC 010**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
First Foreign Language - Level I	4	**KSC 060**
Total Credits: 14		
Semester 2		
First Foreign Language - Level II	4	
SOCIO Elective	3	
Natural/Physical Science Course with Lab	4-5	**KSC 040**
Arts & Humanities	3	**KSC 060**
Total Credits: 14		

Second Year			
Semester 1			
COMM 106 - Public Speaking I	3	**KSC 020**	
SOCIO Elective	3		
First Foreign Language - Level III or Second Foreign Language - Level I	3		
Social and Behavioral - First Subject Area	3	**KSC 050**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Semester 2			
ENGL 200 - Expository Writing II OR	3	**KSC 010**	
ENGL 210 - Honors English	3	**KSC 010**	
SOCIO Elective	3		
First Foreign Language - Level IV or Second Foreign Language - Level II	3		
Social and Behavioral Sciences - Second Subject Area	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Third Year			
Semester 1			
SOCIO 431 - Comparative Social Theories	3		
Outside Concentration	3		
Humanities Restrictive Elective / Ethical Reasoning Overlay	3		
Arts & Humanities Requirement	3		
Natural/Quantitative Restrictive Elective	3		
Total Credits: 15			

Semester 2			
SOCIO 423 - Methods of Social Research I	4		
SOCIO Elective	3		
Outside Concentration	3		
US Multicultural Overlay / Free Elective	3		
Fine Arts Restrictive Elective			
Total Credits: 16			
Fourth Year			
Semester 1			
SOCIO Elective	3		
Outside Concentration	3		
Social and Behavioral – Second Subject Area	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
Global Perspective Overlay / Free elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	4		
Total Credits: 16			

Total Program Hours: 120			

Sociology (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
SOCIO 211 - Introduction to Sociology	3	**KSC 050**	
STAT 225 - Introduction to Statistics	3	**KSC 030**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 13			
Semester 2			
Quantitative Restrictive Elective	3		
SOCIO Elective	3		
Natural & Physical Sciences Requirement	4-5	**KSC 040**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 13			
Second Year			
Semester 1			
SOCIO Elective	3		
Natural Science Restrictive Elective	4		
COMM 106 - Public Speaking I	3	**KSC 020**	

Arts/Humanities/Social Science Restrictive Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
ENGL 200 - Expository Writing II **OR**	3	**KSC 010**
ENGL 210 - Honors English	3	**KSC 010**
SOCIO Elective	3	
Natural, Quantitative, or Social Science course with/ MATH or STAT prereq	3	
Social and Behavioral – First Subject Area	3	**KSC 050**
Free Elective	3	
Total Credits: 15		
Third Year		
Semester 1		
SOCIO 431 - Comparative Social Theories	3	
Outside Concentration	3	
Humanities Restrictive Elective / Ethical Reasoning Overlay	3	
Arts & Humanities	3	**KSC 060**
Natural/Quantitative Restrictive Elective	3	
Total Credits: 15		
Semester 2		
SOCIO 423 - Methods of Social Research I	4	
SOCIO Elective	3	

Outside Concentration	3		
US Multicultural Overlay / Free Elective	3		
Free Elective	3		
Total Credits: 16			
Fourth Year			
Semester 1			
SOCIO Elective	3		
Outside Concentration	3		
Social and Behavioral – Second Subject Area	3		
Free Elective	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
Global Perspective Overlay / Free elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	3		
Free Elective	4		
Total Credits: 17			
Total Program Hours: 120			

Statistics

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Statistics is a science which combines ideas from classical and modern mathematics, probability theory, inductive reasoning, and computer science to develop tools for extracting critical insights from data. It is a dynamic and continuously evolving discipline driven by scientific and technological breakthroughs that both increase the complexity and volume of available data. Statistical analysis plays a central role in all disciplines that make evidence-based decisions, including machine learning and artificial intelligence, and the demand for skilled statisticians and data scientists continues to grow rapidly. Today, statisticians and data scientists are partners in most scientific and technological enterprises.

Nearly every activity performed by plants, animals, and people can generate useful and informative data. As a result, statisticians and data scientists are employed in nearly every scientific field, and the professional activities and opportunities for statisticians are potentially very broad. Frequent employers of statisticians include those in the agricultural, social, natural, medical, business, sports, and engineering sciences.

The Department of Statistics at Kansas State University offers rigorous programs and a wide variety of courses for those pursuing a career in statistics and data science, as well as those seeking data-driven quantitative problem-solving skills, that are designed to meet the ever-changing needs of the discipline.

Dual majors and dual degrees

Students may major in statistics and another discipline within the College of Arts and Sciences. The degree requirements of both departments must be met. For instance, it is possible to complete a dual statistics-mathematics degree in four years.

Students may obtain a dual degree in statistics and a field in another college such as business administration or engineering. The degree requirements of both colleges and majors must be met.

Accelerated programs

Students who begin graduate work after completing the BA or BS degree generally require at least two years to complete work for a master's degree. However, students majoring in statistics and data science can apply to our accelerated program and obtain a BS and a Master of Science in Statistics in an abbreviated time. Students in their junior year (close to completion of 75 undergraduate credit hours) with an outstanding scholastic record (GPA 3.25 or higher in STAT/MATH courses) are invited to apply to the program.

Each student, in consultation with a faculty advisor, will plan an individualized program of study. Features of the program include participation in graduate level activities and courses before completing their BS and count nine credit hours of undergraduate coursework towards their graduate program. Students participating in the program will be considered for financial assistance in the form of scholarships, assistantships, and part-time work.

Accelerated Statistics (BS)/Statistics (MS)

Bachelor of Arts

Statistics and Data Science (BA)

Statistics is the science of learning from data. Today, statisticians are partners in most scientific and technological enterprises. Statisticians are involved at every step in the process of turning data into actionable insights, including designing complex studies; gathering, exploring, and visualizing data from these studies; analyzing these data with appropriate models to discover important relationships; and communicating these findings to a general audience.

One of the fastest-growing professions, statistics is an exciting subject that affects most aspects of modern living, driven by the proliferation of complex and rich data and the evolution of how data are collected and used. Statistical analysis plays a central role in all disciplines that make evidence-based decisions. It has been developed to deal objectively with the uncertainty in phenomena due to the many factors that affect our environment. Statistics plays a critical role in solving practical problems arising in all fields of scientific activity, including the agricultural, social, natural, medical, business, and engineering sciences.

Studying statistics gives you the conceptual foundations and the skills to think critically, extract information from the data, and make insightful conclusions in any field of application. A deep understanding of theoretical, applied, and ethical aspects of statistical analysis will make a difference in your career and give you the necessary background to ensure that you get the most out of your data.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: (1 credit hour)

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: (9 credit hours)

Outside credential of at least 9 credit hours (May be from any unit, **except Statistics and Data Science,** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (except for **STAT**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hours in a microcredential (up to 5 credit hours may overlap with program).

Overlays: ([9] credit hours)

May be fulfilled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay **Credits:** [3]
Global Perspectives Overlay **Credits:** [3]
US Multicultural Overlay **Credits:** [3]

Program

Students must earn a C or higher in Statistics Foundations, Mathematics Foundations, Programming Foundations and Upper-Division Electives.

Alternative Courses

- STAT courses at the 400 level or higher may replace either or both of the Intro to Statistics courses, but credit may only be received for STAT 701 OR STAT 703

- STAT 510 or STAT 770 may replace STAT 610

- STAT 511 or STAT 771 may replace STAT 611

The curriculum for this major assumes students enter college prepared to take Calculus.

Statistics Foundations: (27 credit hours)

Introductory Seminar

STAT 150 - Statistics and Data Science: Introductory Seminar for Majors **Credits:** 1

Intro to Statistics I (3 credit hours)

Chooose one of the following:

STAT 225 - Introduction to Statistics **Credits:** 3
STAT 240 - Biometrics I **Credits:** 3
STAT 250 - Business and Economic Statistics I **Credits:** 3

Intro to Statistics II (3 credit hours)

Chooose one of the following:

STAT 341 - Biometrics II **Credits:** 3
STAT 351 - Business and Economic Statistics II **Credits:** 3

Intro to Mathematical Statistics (6 credit hours)

STAT 610 - Introduction to Mathematical Statistics I **Credits:** 3
STAT 611 - Introduction to Mathematical Statistics II **Credits:** 3

Design Methods (3 credit hours)

Chooose one of the following:

STAT 710 - Sample Survey Methods **Credits:** 3
STAT 720 - Design of Experiments **Credits:** 3
STAT 722 - Experimental Designs for Product Development and Quality Improvement **Credits:** 3

Linear Models (3 credit hours)

Choose one of the following:

STAT 705 - Regression and Analysis of Variance **Credits:** 3
STAT 713 - Applied Linear Statistical Models **Credits:** 3

Mathematics Foundations: (15-18 credit hours)

Calculus: Choose one of two sequences. Math Scholars is recommended for dual MATH and STATDS majors.

Option 1: MATH 220 , MATH 221 , and MATH 222 (12 credits) *

Option 2 (Math Scholars): MATH 250 , MATH 251 , MATH 351 (13 credits) *

* Combinations of these options are also acceptable

Linear Algebra: Choose one of the following (3-5 credits): MATH 551 , MATH 350 or MATH 515

Programming Foundations: (3 credit hours)

Choose one of the following:

CIS 200 - Programming Fundamentals **Credits:** 4
CIS 209 - Computer Programming for Engineers **Credits:** 3

Upper-Division Electives: (9 credit hours)

Choose two upper-division quantitative electives from list (6 credit hours):

ECON 630 - Introduction to Econometrics **Credits:** 3
IMSE 541 - Statistical Quality Control **Credits:** 3
IMSE 785 - Big Data Analytics **Credits:** 3
MIS 665 - Business Analytics and Data Mining **Credits:** 3
MIS 670 - Social Media Analytics and Web Mining **Credits:** 3
MATH 400+ Courses
STAT 400+ Courses (Except STAT 510 , STAT 511 ,STAT 701 , STAT 703)
CIS 400+ Courses
CC 400+ Courses
Choose one additional STAT course at 700+ except STAT 701 and STAT 703 (3 credits)

Advanced Writing Requirement (3 credit hours)

ENGL 516 - Written Communication for the Sciences **Credits:** 3

Statistics Computing (2 credit hours)

STAT 725 - Introduction to the SAS Computing **Credits:** 1
STAT 726 - Introduction to R Computing **Credits:** 1

BA Arts, Humanities, and Social Sciences Restricted Electives: (6 credit hours)

3 credit hours in each of the following, with at least 3 credit hours at 300 level or above OR at any level with a prerequisite in the same discipline.

Any course or combination of courses in Fine Arts: (3 credit hours)

One Non-Quantitative Social Science; Any Social course that does NOT have a MATH or STAT prereq: (3 credit hours)

BA Second Language Requirement: (3-16 credit hours)

Choose one of the following:

Option 1: (3-14 credit hours)

At least 3 credit hours of coursework culminating with level 4 or above (i.e., French 4, German 4, Spanish 4, etc.) or the equivalent of level 4 in a second language sequence.

Option 2: (16 credit hours)

At least 16 credit hours of coursework in which student takes the first and second levels of two different languages, selected from any language offered within the department of Modern Languages, ASL, or from any other second language transferred in at an equivalent level.

Option 3: (3 credit hours)

Students whose first language is not English may satisfy this requirement by meeting the English Proficiency Admission Standards for K-State or by completing the appropriate level of exit courses with the English Language Program.

Free Electives: (0-16 credit hours)

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Arts & Sciences common BA degree requirements satisfied by

Upper level Math and Statistics Courses
Advanced Writing Requirement
BA Fine Arts and Non-Quantitative Social Sciences Restricted Electives

Bachelor of Science

Statistics and Data Science (BS)

Statistics is the science of learning from data. Today, statisticians are partners in most scientific and technological enterprises. Statisticians are involved at every step in the process of turning data into actionable insights, including designing complex studies; gathering, exploring, and visualizing data from these studies; analyzing these data with appropriate models to discover important relationships; and communicating these findings to a general audience.

One of the fastest-growing professions, statistics is an exciting subject that affects most aspects of modern living, driven by the proliferation of complex and rich data and the evolution of how data are collected and used. Statistical analysis plays a central role in all disciplines that make evidence-based decisions. It has been developed to deal objectively with the uncertainty in phenomena due to the many factors that affect our environment. Statistics plays a critical role in solving practical problems arising in all fields of scientific activity, including the agricultural, social, natural, medical, business, and engineering sciences.

Studying statistics gives you the conceptual foundations and the skills to think critically, extract information from the data, and make insightful conclusions in any field of application. A deep understanding of theoretical, applied, and ethical aspects of statistical analysis will make a difference in your career and give you the necessary background to ensure that you get the most out of your data.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Orientation: (1 credit hour)

DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation **Credits:** 1

Outside Concentration: (9 credit hours)

Outside credential of at least 9 credit hours (May be from any unit, **except Statistics and Data Science** OR from approved interdisciplinary credentials within the unit).

OR

Any 9 credit hours in a single prefix (**except for STAT**) (all must be 300 level or above OR at any level with a prereq in the same prefix; up to 5 credit hours may overlap with program).

OR

Any 9 credit hour microcredential (up to 5 credit hours may overlap with program).

Overlays: ([9] credit hours)

May be filled in K-State Core, Outside Concentration, electives, or the Program itself.

Ethical Reasoning Overlay, 1 course **Credits**: [3]
Global Perspectives Overlay, 1 course **Credits**: [3]
US Multicultural Overlay, 1 course **Credits**: [3]

Program

Students must earn a C or higher in Statistics Foundations, Mathematics Foundations, Programming Foundations and Upper-Division Electives.

Alternative Courses

- STAT courses at the 400 level or higher may replace either or both of the Intro to Statistics courses, but credit may only be received for STAT 701 OR STAT 703

- STAT 510 or STAT 770 may replace STAT 610

- STAT 511 or STAT 771 may replace STAT 611

The curriculum for this major assumes students enter college prepared to take Calculus.

Statistics Foundations: (19 credit hours)

Introductory Seminar (1 credit hour)

STAT 150 - Statistics and Data Science: Introductory Seminar for Majors **Credits:** 1

Intro to Statistics I (3 credit hours)

Chooose one of the following:

STAT 225 - Introduction to Statistics **Credits:** 3
STAT 240 - Biometrics I **Credits:** 3
STAT 250 - Business and Economic Statistics I **Credits:** 3

Intro to Statistics II (3 credit hours)

Choose one of the following:

STAT 341 - Biometrics II **Credits:** 3
STAT 351 - Business and Economic Statistics II **Credits:** 3

Intro to Mathematical Statistics (6 credit hours)

STAT 610 - Introduction to Mathematical Statistics I **Credits:** 3

STAT 611 - Introduction to Mathematical Statistics II **Credits:** 3

Design Methods (3 credit hours)

Choose one of the following:

STAT 710 - Sample Survey Methods **Credits:** 3
STAT 720 - Design of Experiments **Credits:** 3
STAT 722 - Experimental Designs for Product Development and Quality Improvement **Credits:** 3

Linear Models (3 credit hours)

Choose one of the following:

STAT 705 - Regression and Analysis of Variance **Credits:** 3
STAT 713 - Applied Linear Statistical Models **Credits:** 3

Mathematics Foundations: (15-18 credit hours)

Calculus: Choose one of two sequences. Math Scholars is recommended for dual MATH and STATDS majors.

Option 1: MATH 220 , MATH 221 , and MATH 222 (12 credits)*

Option 2 (Math Scholars): MATH 250 , MATH 251 , MATH 351 (13 credits) *

* Combinations of these two options are also acceptable

Linear Algebra: Choose one of the following (3-5 credits): MATH 551 , MATH 350 or MATH 515

Programming Foundations: (3 credit hours)

Choose one of the following:

CIS 200 - Programming Fundamentals **Credits:** 4
CIS 209 - Computer Programming for Engineers **Credits:** 3

Upper-Division Electives: (9 credit hours)

Choose two upper-division quantitative electives from list (6 credit hours):

ECON 630 - Introduction to Econometrics **Credits:** 3
IMSE 785 - Big Data Analytics **Credits:** 3
IMSE 541 - Statistical Quality Control **Credits:** 3
MIS 665 - Business Analytics and Data Mining **Credits:** 3
MIS 670 - Social Media Analytics and Web Mining **Credits:** 3
MATH 400+ Courses
STAT 400+ Courses (Except STAT 510 , STAT 511 , STAT 701 , STAT 703)
CIS 400+ Courses
CC 400+ Courses

Choose one additional STAT course at 700+ except STAT 701 and STAT 703 (3 credits)

Advanced Writing Requirement (3 credit hours)

ENGL 516 - Written Communication for the Sciences **Credits:** 3

Statistics Computing (2 credit hours)

STAT 725 - Introduction to the SAS Computing **Credits:** 1
STAT 726 - Introduction to R Computing **Credits:** 1

BS Natural and Quantitative Restricted Electives: (3 credit hours)

In addition to K-State Core, choose one (1) Natural Science course at any level.

BS Arts, Humanities, and Social Sciences Restricted Electives: (3 credit hours)

In addition to K-State Core, choose three (3) credits at any level in Non-Quantitative Social Science at any level: Any social science course that does NOT have a MATH or STAT prereq Credits: 3

Free Electives: (19-21 credit hours)

In addition to K-State Core Free Electives requirement, take any course so that the total credit hours completed equals 120.

Total Hours Required for Graduation: 120

Arts & Sciences common BS degree requirements satisfied by

Upper level Math and Statistics Courses
Advanced Writing Requirement
BS Natural Science Restricted Elective
BS Non-Quantitative Social Sciences Restricted Electives

Minor

Statistics Minor

Program requirements

Students interested in quantitative methods to complement their major area of study may select a minor in statistics. The requirements are:

Select one of:
STAT 225 - Introduction to Statistics **Credits:** 3
STAT 240 - Biometrics I **Credits:** 3
STAT 250 - Business and Economic Statistics I **Credits:** 3
STAT 510 - Introductory Probability and Statistics I **Credits:** 3
Select one of:

STAT 341 - Biometrics II **Credits:** 3
STAT 351 - Business and Economic Statistics II **Credits:** 3
STAT 511 - Introductory Probability and Statistics II **Credits:** 3

In addition:

STAT 705 - Regression and Analysis of Variance **Credits:** 3

Six additional credit hours that require statistics as a prerequisite. Courses may be statistics courses or quantitative courses from another department containing substantial statistical content. These courses should be pre-approved by the Department of Statistics. **Credits:** 6

Total credit hours: (15)

Other Program Choices

Statistics and Data Science (BA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
COMM 106 - Public Speaking I	3	**KSC 020**
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
STAT 250 - Business and Economic Statistics I	3	
STAT 150 - Statistics and Data Science: Introductory Seminar for Majors	1	
Foreign Language Level I	4	**KSC 060**
Total Credits: 16		
Semester 2		
CIS 209 - Computer Programming for Engineers	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 221 - Analytic Geometry and Calculus II	4	
STAT 351 - Business and Economic Statistics II	3	
Foreign Language Level II	4	

Total Credits: 17		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 222 - Analytic Geometry and Calculus III	4	
STAT 725 - Introduction to the SAS Computing	1	
STAT 726 - Introduction to R Computing	1	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Foreign Language Level III	3	
Total Credits: 15		
Semester 2		
MATH 515 - Introduction to Linear Algebra	3	
STAT 713 - Applied Linear Statistical Models	3	
Natural & Physical Sciences Requirement	4	**KSC 040**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Foreign Language Level IV	3	
Total Credits: 16		
Third Year		
Semester 1		
STAT 610 - Introduction to Mathematical Statistics I	3	
Social & Behavioral Sciences Requirement - US Multicultural overlay (recommended)	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**

Outside Concentration	3	
Free Elective	2	
Total Credits: 14		
Semester 2		
STAT 611 - Introduction to Mathematical Statistics II	3	
Arts & Humanities Requirement	3	**KSC 060**
Arts & Humanities Requirement - Ethical Overlay (recommended)	3	
Outside Concentration	3	
Free Elective	3	
Total Credits: 15		
Fourth Year		
Semester 1		
STAT 710 - Sample Survey Methods	3	
Upper-Division Quantitative Elective	3	
Global Perspectives Overlay (recommended) and Non-Quantitative Social Science A&S req	3	
Fine Arts or Humanities Restrictive Elective	3	
Outside Concentration	3	
Total Credits: 15		
Semester 2		
ENGL 516 - Written Communication for the Sciences	3	
Upper-Division Quantitative Elective	3	
Upper-Division Quantitative Elective	3	

Free Elective	3	
Total Credits: 12		
Total Program Hours: 120		

Statistics and Data Science (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
MATH 220 - Analytic Geometry and Calculus I **OR**	4	**KSC 030**
MATH 250 - Mathematical Scholars Calculus 1	4	**KSC 030**
ENGL 100 - Expository Writing I	3	**KSC 010**
STAT 250 - Business and Economic Statistics I	3	
Social & Behavioral Sciences Requirement - Global Perspectives Overlay (recommended)	3	**KSC 050**
Free Elective (EDCEP/CAT Connections course recommended/UHP 189 recommended)	1	
DAS 101 - Discover, Create, and Thrive: Arts and Sciences Orientation	1	
Total Credits: 15		
Semester 2		
STAT 351 - Business and Economic Statistics II	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 221 - Analytic Geometry and Calculus II **OR**	4	
MATH 251 - Mathematical Scholars Calculus 2	4	
CIS 209 - Computer Programming for Engineers	3	
STAT 150 - Statistics and Data Science: Introductory Seminar for Majors	1	

Total Credits: 14		
Second Year		
Semester 1		
COMM 106 - Public Speaking I	3	**KSC 020**
MATH 222 - Analytic Geometry and Calculus III	4	
STAT 725 - Introduction to the SAS Computing	1	
STAT 726 - Introduction to R Computing	1	
Arts & Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
MATH 551 - Applied Matrix Theory **OR**	3	
MATH 515 - Introduction to Linear Algebra	3	
Outside Concentration	3	
Natural & Physical Science Requirement	4	**KSC 040**
Social & Behavioral Science Requirement	3	**KSC 050**
Arts & Humanities Requirement - Ethical overlay (recommended)	3	**KSC 060**
Total Credits: 16		
Third Year		
Semester 1		
STAT 610 - Introduction to Mathematical Statistics I	3	
STAT 705 - Regression and Analysis of Variance **OR**	3	

STAT 713 - Applied Linear Statistical Models	3	
Outside Concentration	3	
Free Elective {Institutionally Designated Area}	6	**KSC 070**
Total Credits: 15		
Semester 2		
STAT 611 - Introduction to Mathematical Statistics II	3	
Natural/Quantitative Restrictive Elective	3	
Outside Concentration	3	
Free Elective	3	
Free Elective	3	
Total Credits: 15		
Fourth Year		
Semester 1		
STAT 710 - Sample Survey Methods	3	
Upper-Division Quantitative Elective	3	
US Multicultural Overlay (recommended) and Non-Quantitative Social Science A&S req	3	
Free Elective	3	
Free Elective	3	
Total Credits: 15		
Semester 2		
ENGL 516 - Written Communication for the Sciences	3	
Upper-Division Quantitative Elective	3	

Upper-Division Quantitative Elective	3	
Free Elective	3	
Free Elective	3	
Total Credits: 15		
Total Program Hours: 120		

College of Business Administration

Kevin Gwinner, Edgerley Family Dean
Terry Mason, Associate Dean for Academic Programs
Olivia Law-Delrosso, Assistant Dean for Student Success and Employee Engagement
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The College of Business Administration provides a rigorous and comprehensive undergraduate degree program that strikes a balance between general education and professional study in business administration. The College seeks to produce graduates with a broad education in the arts, sciences, and humanities; a solid knowledge and understanding of the functioning of the business world; sufficient knowledge and skill in a field of specialization to obtain positions in business; and the proven ability to think creatively and analytically in order to progress into positions of greater responsibility. The College provides comprehensive and integrated Career Development and Academic Advising services through the Student Success Center.

The degree programs in business offered by the College of Business Administration are accredited by the Association to Advance Collegiate Schools of Business (AACSB).

Recognizing the importance of the global nature of today's business and the diversity in the workforce, the College places emphasis on these areas and strives to prepare its graduates to be successful in this global, diverse business environment. The business firm is examined as a vital social, economic, and political institution. To equip the prospective executive and specialist for future professional responsibilities, the college organizes instructional activities around two themes: (1) the businessperson as manager and decision maker in the firm; and (2) the businessperson as one who must analyze and adapt to the larger economic, social, and political environment of which he or she and the firm are integral parts. Both subject matter and instructional techniques focus on decision making and implementation of decisions through critical and creative analysis.

The College of Business Administration also offers numerous certificates (Business of Sports and Entertainment, Consulting, Data Analytics, International Business, Investment Management, Marketing Technology, Professional Strategic Selling) five minors (Business, Entrepreneurship and Innovation, Management, Management Infomation Systems, and Marketing) and sponsors short courses and conferences for business and management groups.

Programs

Business Administration (BSBA) - Campus Program

Business Administration (B.S.) - Online Program

Certificates

- Business of Sports and Entertainment
- Consulting
- Data Analytics
- International Business
- Investment Management
- Marketing Technology
- Professional Strategic Selling
- Supply Chain Management

Minors

- Business
- Entrepreneurship and Innovation
- Management
- Management Information Systems
- Marketing

University Honors Program

Please click on the following link to learn more about the University Honors Program

Additional Learning Opportunities

Experiential Learning

The College of Business Administration, through its own Career Development program offers opportunities for students to obtain experience in business and industry as part of their college education. Students work through the Career Development program and the University's Career Center and are selected through formal interviews with participating companies.

Pre-Business Education

Pre-business education majors are enrolled in and advised by the College of Education. Students interested in teaching business education at the high school level are instructed to refer to the licensure requirements for details.

Pre-Law

Law schools emphasize various objectives in pre-law study for the development of basic skills and insights. These objectives are: The acquisition of skills in comprehension and expression; understanding human institutions; and the ability to think clearly, carefully, and independently. A pre-law student enrolled in the College of Business Administration not only achieves these important goals, but also obtains a broad business background that is desirable preparation for study of the law. Pre-Law students work with both an academic advisor in the College and the K-State Pre-Law advisor.

General Education:

Please click on the following link to learn more about K-State Core.

Business Administration Dual Degree

The dual degree programs allow students to earn the bachelor of science in business administration degree in addition to a nonbusiness degree. Because of course sequence requirements, students should begin the dual degree program in their sophomore year. Students must be enrolled in both the college offering the nonbusiness degree and the College of Business Administration.

Any student who wishes to complete a dual degree must satisfy the requirements, other than university general education requirements, for both degrees. The business administration requirements include course work in the following areas: communications, quantitative, social sciences, economics, and business. For further information about the exact academic requirements, contact Student Services, College of Business Administration, 107 Calvin Hall, 785-532-6180.

Business Administration Pre-Professionals

Business administration pre-professions

Admission Requirements

Students entering college for the first time and eligible for admission to K-State must enroll in the business administration pre-professions program (BAPP).

Students with previous academic work (either at K-State or elsewhere) requesting transfer to the College of Business Administration must have a 2.5 or higher grade point average and enroll in the BAPP curriculum. Transfer students, entering with 45 or more credit hours, must achieve a K-State GPA of 2.5 or higher on the first 15 or more hours of K-State course work to be able to continue in the College of Business Administration. For purposes of admission, grade point averages will be based on all courses attempted at colleges or universities.

The BAPP is expressly designed as a non-degree program; students with 60 or more credit hours will not be allowed to enroll in BAPP unless they are first-semester transfer students. Students remain in BAPP until they meet the requirements for their intended degree plan and complete an Application to Degree Plan.

Admission to a degree plan (major) in accounting, entrepreneurship, finance, general business (distance learning students), management, management information systems, marketing or professional strategic selling is necessary for graduation. Applicants for admission to one of the degree plans will be accepted upon completion of a minimum of 45 credit hours with a K-State grade point average of 2.5 or above.

Transfer students must meet the above requirements and complete at least 12 graded hours at K-State before they can be admitted into a degree plan.

The exact sequence of the courses to be taken is worked out between student and advisor. There is some flexibility in scheduling. To enroll in any course, students must have prerequisites as stated in the catalog.

Applications for a degree plan (major) may be made by the semester during which the student will have completed at least 45 credit hours of the pre-professional requirements. Degree plan applications must be filed by the time students complete 60 credit hours.

Transfer Coursework

All transfer coursework approved by the K-State Admissions Office, with a grade of C or better, will be reviewed by the college's Student Success Center for equivalency within the business curriculum and is subject to final approval. (Transfer coursework carrying a grade of D will not be accepted toward a student's business degree requirements.)

Final approval of transfer courses for use within an individuals business degree plan is determined by the appropriate department head, in conjunction with the Student Success Center and the Associate Dean. In general, upper-level (300+) business* courses will only be considered for approval if the coursework has been completed at an AACSB-accredited institution.

*Business courses are defined as those carrying a prefix of ACCTG, ENTRP, FINAN, GENBA, MANGT, MIS, MKTG or SALES..

Degree Requirements

Candidates for the bachelor of science in business administration must complete at least 9 credit hours of resident instruction in upper-division business courses after acceptance and enrollment in a degree plan program in the college. Additional residency requirements may apply.

A student will become eligible for graduation with a bachelor of science in business administration degree upon fulfilling the above requirements and completing 120 credit hours of coursework. Forty-five of these hours must be in the BAPP program, 30 hours in the business core, and the remaining 45 hours must be earned as specified by the student's major.

Bachelor's degree requirements

Requirements for BAPP (45 credit hours)

Communication Courses (11 credit hours)

Requirement below for Non-Native Speakers
Note: Automatic course substitution for COMM 105 is COMM 106.
COMM 105 - Public Speaking IA **Credits:** 2
or
COMM 106 - Public Speaking I **Credits:** 3
ENGL 100 - Expository Writing I **Credits:** 3
ENGL 200 - Expository Writing II **Credits:** 3
ENGL 417 - Written Communication for the Workplace **Credits:** 3
*Non-Native English Speakers who are required to take one or more English Language Program courses are *required* to also complete DAS 175 - Business Communications for Non-Native Speakers (3 credit hours) prior to beginning their business coursework. DAS 155 should be taken concurrent to achieving part time status in the English Language Program or immediately following completion of all English Language Program requirements. This course is *recommended* for non-native English speakers that do not take ELP courses but who are new to American culture.

Quantitative Courses (18 credit hours)

ECON 110 - Principles of Macroeconomics **Credits:** 3
ECON 120 - Principles of Microeconomics **Credits:** 3
Note: Automatic course substitution for ECON 120 is AGEC 120.

MATH 100 - College Algebra **Credits:** 3
Note: Students who don't meet MATH 100 prerequisites are encouraged to take **MATH 010 - Intermediate Algebra** before taking College Algebra. Credit received for Intermediate Algebra **does not apply** toward the hours required for graduation.

MATH 205 - General Calculus **Credits:** 3

Note: Automatic course substitution for MATH 205 is MATH 220.

Note: Students who test directly into MATH 205 or MATH 220 and complete the course will have the MATH 100 requirement waived, if they have not already taken MATH 100. Three credit hours/units will be added to the unrestricted electives requirement of the student's major/plan degree program in order to meet graduation requirements (120 credit hours/units).

STAT 250 - Business and Economic Statistics I **Credits:** 3

Note: Automatic course substitutions for STAT 250 are STAT 225 or STAT 240 or STAT 510.

STAT 351 - Business and Economic Statistics II **Credits:** 3

K-State 8 Requirement (16 credit hours)

All business students must fulfill the requirements of the university's K-State 8 General Education program and the following:

The Natural and Physical Sciences requirement must have a laboratory component
One additional course tagged under the Global Issues and Perspectives area

The above requirements will be fulfilled in the following manner.

All business students must complete 16 credit hours of K-State 8 coursework outside the College of Business Administration which fulfill the following requirements:

Aesthetic Interpretation **Credits:** 3
Global Issues and Perspectives **Credits:** 3
Human Diversity within the U.S. **Credits:** 3
Natural and Physical Sciences course with accompanying laboratory **Credits:** 4
Historical Perspectives **Credits:** 3

Remaining K-State 8 requirements will be met through other general and business core requirements.

Empirical and Quantitative Reasoning - MATH 100 or MATH 205
Ethical Reasoning and Responsibility - MANGT 596
Global Issues and Perspectives - ECON 110
Social Sciences - ECON 120

Business Core courses (30 credit hours)

Students must earn a minimum 2.5 GPA in the business core courses in order to graduate.

* ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
* ACCTG 241 - Introduction to Financial Accounting **Credits:** 3

FINAN 450 - Principles of Finance **Credits:** 3
GENBA 105 - Business Orientation **Credits:** 0-1
GENBA 205 - Career Accelerator **Credits:** 0-1
MANGT 366 - Information Systems and Business Analytics **Credits:** 3

or

MIS 366 - Introduction to Business Analytics and Information Systems **Credits:** 3 (MIS Majors Only)

MANGT 220 - Principles of Management **Credits:** 3
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
MANGT 595 - Strategic Management **Credits:** 3
MANGT 596 - Business Ethics and Corporate Citizenship **Credits:** 3
MKTG 250 - Introduction to Marketing **Credits:** 3

*Note: Both accounting courses must be taken at K-State or must be taken elsewhere to obtain credit. Consult with your academic advisor or check the K-State transfer equivalencies web page for complete information.

Majors (45 credit hours)

Accounting
Finance
Management (Entrepreneurship, Organizational Management, Human Resource Management, Operations and Supply Chain Management, Management Information Systems)
Marketing (Marketing, Strategic Professional Selling)

Total credit hours required for graduation: (120)

University Honors Program

Please click on the following link to learn more about the University Honors Program .

Additional Learning Opportunities

Distance Education

The major in general business is a 63 credit hours degree completion program offered through the K-State Global Campus and is available only to off-campus students.

The degree is suitable for individuals who have an associate of science degree, who are employed full time and want to continue their education, or who have family responsibilities that make it impossible to take courses in a traditional on-campus manner.

Admission to the program requires the student to have completed at least 45 hours of the Business Pre-Professions Program (BAPP) with a GPA of 2.5 or higher on the first 12 hours of K-State course work. Application for admission to the general business degree program should be made through the K-State Global Campus, non-traditional studies program, at 1-800-622-2KSU or on the website.

Experiential Learning

The College of Business Administration, through the internship program, study abroad, and service learning, offers opportunities for students to obtain experience in business and industry as part of their college education. Students are strongly encouraged to take advantage of one or more of these opportunities during their academic career at K-State and should work with their academic advisor to determine how for-credit experiential learning can be applied to the student's degree requirements.

Pre-Business Education

Pre-business education majors are enrolled in and advised by the College of Education. Students interested in teaching business education at the high school level are instructed to refer to the licensure requirements for details.

Pre-Law

Law schools emphasize various objectives in pre-law study for the development of basic skills and insights. These objectives are: the acquisition of skills in comprehension and expression; understanding human institutions; and the ability to think clearly, carefully, and independently. A pre-law student enrolled in the College of Business Administration not only achieves these important goals, but also obtains a broad business background that is desirable preparation for study of the law.

Business Core

Business Core courses (30 credit hours)

Courses

* ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
* ACCTG 241 - Introduction to Financial Accounting **Credits:** 3

ENTRP 340 - Business Innovation and the Entrepreneurial Mindset **Credits:** 3
FINAN 450 - Principles of Finance **Credits:** 3
GENBA 105 - Business Orientation **Credits:** 0-1
GENBA 205 - Career Accelerator **Credits:** 0-1
MANGT 366 - Information Systems and Business Analytics **Credits:** 3
or
MIS 366 - Introduction to Business Analytics and Information Systems **Credits:** 3
MANGT 220 - Principles of Management **Credits:** 3
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
MANGT 595 - Strategic Management **Credits:** 3
MANGT 596 - Business Ethics and Corporate Citizenship **Credits:** 3
MKTG 250 - Introduction to Marketing **Credits:** 3

Business Minor

Program requirements

Upon graduation, most students will be involved in organizations, profit or nonprofit, that will use business concepts and principles to improve their services or products. To complete the business minor students must graduate from another Kansas State University college and complete the business courses listed below:

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
FINAN 450 - Principles of Finance **Credits:** 3
MANGT 220 - Principles of Management **Credits:** 3
MKTG 250 - Introduction to Marketing **Credits:** 3

Notes

The business minor is only available to non-business majors who will graduate from another college at K-State. At least three of the five required courses must be completed at Kansas State University. Students must achieve a cumulative 2.50 GPA (K-State and transfer grades) in the five required courses to complete the minor. Note: Transfer grade of a "D" does not transfer.

Total credit hours: (15)

Data Analytics Undergraduate Certificate

Data analytics (DA) is the extensive use of analytical tools and technologies to develop insights from structured and unstructured data ("big data"). There is an increasing demand for managers and analysts with talents ("data savvy") in managing and analyzing data and applying the findings to fact-based decisions, action, and learning.

The purpose of the Certificate in DA is to provide an opportunity for K-State students to develop strong talent in such areas as data-driven problem understanding and solving, data collection and management, information visualization, and storytelling. The DA certificate will help K-State students to distinguish themselves as "data savvy" in their professional fields.

Other Requirements:

Students must earn at least a 2.5 GPA on all courses taken to fulfill the requirements of the certificate program.
The certificate will be issued by the K-State College of Business Administration and noted on the transcript.
The certificate can be earned post-baccalaureate.
Certificate can be completed by degree seeking students at Kansas State University or obtained as a credential on its own (free-standing). Students who do not intend to become a candidate for a bachelor's degree at Kansas State University must apply for admission as a non-degree, certificate-seeking student. Such students must submit the admission application, application fee, and transcripts. Applicants must provide documentation of high school or GED completion and, if college courses have been attempted, official transcripts demonstrating a cumulative GPA of 2.0 or higher for all post-secondary coursework. Students who later choose to pursue a bachelor's degree must apply for admission as a degree-seeking student.

Core Courses (9 credit hours)

MIS 665 - Business Analytics and Data Mining **Credits:** 3
MIS 670 - Social Media Analytics and Web Mining **Credits:** 3
MKTG 480 - Marketing Analytics Fundamentals **Credits:** 3

Elective Courses

Select 2 from the following courses:

CIS 531 - Introduction to Programming Techniques for Data Science and Analytics **Credits:** 3
ECON 630 - Introduction to Econometrics **Credits:** 3
FINAN 623 - Financial Modeling **Credits:** 3
MANGT 521 - Managerial Decision Analytics **Credits:** 3
MANGT 523 - Human Resources Analytics **Credits:** 3
MANGT 525 - Organizational Management and Data Analytics **Credits:** 3
MANGT 663 - Supply Chain Analytics **Credits:** 3
MKTG 551 - Data Narratives and Visualization **Credits:** 3
MKTG 653 - Applications of Marketing Analytics **Credits:** 3
MKTG 650 - Digital Marketing Analysis and Strategy **Credits:** 3
MKTG 654 - Marketing Research **Credits:** 3
MIS 422 - Business Database and SQL **Credits:** 3
MIS 756 - Business Data Pipelines **Credits:** 3

Total credit hours: (15)

International Business Undergraduate Certificate

The certificate in international business is open to all students, and it appeals to students seeking adventure, growth, and international exposure that will enhance their personal and professional development. The certificate will be awarded to students who achieve a superior level of expertise in international aspects of business. This certificate will be noted on the student's transcript.

Required Courses (9 hours)

ECON 681 - International Trade **Credits:** 3
MANGT 590 - International Management **Credits:** 3
MKTG 325 - International Marketing **Credits:** 3

Students completing the international business certificate can follow the non-foreign language track or the language track.

Non-Foreign Language Track (6 hours)

Select 2 courses (6 hours) from the following list:

ECON 682 - Development Economics **Credits:** 3
ECON 684 - International Finance and Open Economy Macroeconomics **Credits:** 3
FINAN 643 - International Financial Management **Credits:** 3
GEOG 100 - World Geography & Globalization **Credits:** 3
MANGT 260 - Workplace Dynamics and Organizational Culture **Credits:** 3
MKTG 326 - International Business **Credits:** 3

or

A class approved by the Director of the International Program.

Study abroad experience, international service learning, or international internship (at least 3 hours of relevant approved coursework as part of the experience).

Language Track (6 hours)

Select 2 courses (6 hours)

Two (2) advanced language courses (fourth level proficiency)

Study abroad experience, international service learning, or international internship (at least 3 hours of relevant approved coursework as part of the experience).

Notes:

Students must earn a minimum of a 2.50 grade point average on courses taken to fulfill the requirement of the CIB.

No more than 25% of total credit hours required for the certificate program may be transfer hours. Student must earn at least 75% of credits that apply to the certificate program from Kansas State University OR an approved university affiliate of Kansas State University in a foreign country.

Certificate can be completed by degree seeking students at Kansas State University or obtained as a credential on its own (free standing). Students who do not intend to become a candidate for a bachelor's degree at Kansas State University must apply for admission as a non-degree, certificate-seeking student. Such students must submit the admission

application, application fee, and transcripts. Applicants must provide documentation of high school or GED completion and, if college courses have been attempted, official transcripts demonstrating a cumulative GPA of 2.0 or higher for all post-secondary coursework. Students who later choose to pursue a bachelor's degree must apply for admission as a degree-seeking student.

The number of students admitted into the CIB will be based on resource availability.

Accounting

Brett R. Wilkinson, Head

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Web page

The mission of the Department of Accounting at Kansas State University is to ensure a quality liberal, general business, and accounting education at the undergraduate and master's levels that prepares students to become both productive citizens and successful professional accountants.

The focus of the faculty of the Department of Accounting in achieving its mission is on maintaining a responsive accounting program that provides students with sufficient technical and conceptual knowledge for a successful career in accounting as well as with the problem-solving and communication skills necessary to apply their knowledge in a professional setting. To maintain such a program and as a matter of principle, the faculty of the Department of Accounting is committed to and considers its highest priority high quality teaching, including innovative curriculum and other instructional development. The faculty is also committed to research and other forms of scholarly activity that add to the body of knowledge or support and foster improvement in teaching. In addition, the faculty is committed to participation in service activities that advance the profession and maintain the faculty's professional currentness. Also to maintain such a program and as a matter of principle, the faculty of the Department of Accounting is committed to attracting and retaining highly motivated students with promise of success both in the Department's academic program and in the accounting profession. To this end, the faculty actively engages in student recruitment and placement, and strives to provide a supportive instructional environment.

Bachelor of Science in Business Administration

Accounting (BSBA)

Accounting is often called the "language of business" because its terms and concepts are used to describe the daily events of business. The accountant measures and reports to various users the relevant financial information necessary for decision making.

The objective of the undergraduate accounting program is to provide basic conceptual accounting and business knowledge as a foundation for the fifth-year (master of accountancy) program. Requirements that accomplish this objective are specified below.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of

100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (44 credit hours)

The curriculum for this major assumes students enter college prepared to take Calculus.

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
GENBA 105 - Business Orientation **Credits:** 0-1
GENBA 205 - Career Accelerator **Credits:** 0-1
ECON 110 - Principles of Macroeconomics **Credits:** 3
ECON 120 - Principles of Microeconomics **Credits:** 3
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset **Credits:** 3
FINAN 450 - Principles of Finance **Credits:** 3
MANGT 595 - Strategic Management **Credits:** 3
MANGT 596 - Business Ethics and Corporate Citizenship **Credits:** 3
MANGT 220 - Principles of Management **Credits:** 3
MANGT 366 - Information Systems and Business Analytics **Credits:** 3
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
MATH 205 - General Calculus **Credits:** 3
MKTG 250 - Introduction to Marketing **Credits:** 3
STAT 225 - Introduction to Statistics **Credits:** 3
OR
STAT 250 - Business and Economic Statistics I **Credits:** 3

Major Field Requirements: (30 credit hours)

ACCTG 331 - Intermediate Accounting and Analytics I **Credits:** 3
ACCTG 342 - Taxation I **Credits:** 3
ACCTG 413 - Accounting Information Systems **Credits:** 3
ACCTG 432 - Cost Accounting **Credits:** 3
ACCTG 433 - Intermediate Accounting and Analytics II **Credits:** 3
ACCTG 442 - Auditing I **Credits:** 3
ACCTG 490 - Accounting Analytics **Credits:** 3
ACCTG 641 - Intermediate Accounting and Analytics III **Credits:** 3
ACCTG 642 - Accounting Research and Communication **Credits:** 3
MANGT 230 - Business Law I **Credits:** 3

Economics Electives: (3 credit hours)

Choose one of the following:
ECON 510 - Intermediate Macroeconomics **Credits:** 3
ECON 520 - Intermediate Microeconomics **Credits:** 3

Restricted Elective: (3 credit hours)

Choose one of the following:

ENGL 417 - Written Communication for the Workplace **Credits:** 3
GENBA 145 - Business and Society **Credits:** 3
FINAN 451 - Introduction to Integrated Investment Management **Credits:** 3
MANGT 330 - Business Law II **Credits:** 3
SALES 300 - Fundamentals of Professional Selling **Credits:** 3

Unrestricted Electives: (6 credit hours)

Any course numbered 100-level or above offered for credit by a university department. Students are strongly encouraged to use their unrestricted electives to complete for-credit experiential learning opportunities, such as internships, community service/engagement, and study abroad.

Total Hours Required for Graduation: 120

Other Program Choices

Accounting (BSBA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ECON 110 - Principles of Macroeconomics	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset	3	
MATH 100 - College Algebra	3	**KSC 030**
GENBA 105 - Business Orientation	0-1	
Arts & Humanities Elective	3	**KSC 060**
Total Credits: 16		
Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**

ECON 120 - Principles of Microeconomics	3	
MANGT 220 - Principles of Management	3	
MATH 205 - General Calculus	3	
Natural & Physical Science (with Lab)	4	**KSC 040**
Total Credits: 16		
Second Year		
Semester 1		
ACCTG 231 - Introduction to Managerial Accounting	3	
GENBA 205 - Career Accelerator	0-1	
MKTG 250 - Introduction to Marketing	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
STAT 225 - Introduction to Statistics **OR**	3	
STAT 250 - Business and Economic Statistics I	3	
Social & Behavioral Elective (Unrestricted Electives)	3	**KSC 050**
Total Credits: 16		
Semester 2		
ACCTG 241 - Introduction to Financial Accounting	3	
FINAN 450 - Principles of Finance	3	
MANGT 421 - Introduction to Operations and Supply Chain Management	3	
Social & Behavioral Sciences Elective	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		

Third Year		
Semester 1		
ACCTG 331 - Intermediate Accounting and Analytics I	3	
ACCTG 413 - Accounting Information Systems	3	
MANGT 366 - Information Systems and Business Analytics	3	
Arts & Humanities Elective	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
ACCTG 342 - Taxation I	3	
ACCTG 433 - Intermediate Accounting and Analytics II	3	
ECON 510 - Intermediate Macroeconomics **OR**	3	
ECON 520 - Intermediate Microeconomics	3	
MANGT 230 - Business Law I	3	
ACCTG 490 - Accounting Analytics	3	
Total Credits: 15		
Fourth Year		
Semester 1		
ACCTG 432 - Cost Accounting	3	
ACCTG 641 - Intermediate Accounting and Analytics III	3	
ACCTG 445 - Financial Statement Analysis **OR**	3	
ENGL 417 - Written Communication for the Workplace **OR**	3	
FINAN 451 - Introduction to Integrated Investment Management **OR**	3	

GENBA 145 - Business and Society **OR**	3		
SALES 300 - Fundamentals of Professional Selling	3		
MANGT 595 - Strategic Management	3		
Unrestricted Elective	3		
Total Credits: 15			
Semester 2			
ACCTG 442 - Auditing I	3		
ACCTG 642 - Accounting Research and Communication	3		
MANGT 596 - Business Ethics and Corporate Citizenship	3		
Unrestricted Elective	3		
Total Credits: 12			
Total Program Hours: 120			

Finance

Hardy Johnson, Head

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Web page

The finance curriculum prepares students in a broad range of careers in finance.

The curriculum provides students with the analytical skills for the analysis, evaluation, and reporting of financial information as well as broad knowledge of financial markets, institutions, and services. These skills are ultimately used in managerial decision making by businesses and regulatory agencies as well as providing financial products and services to the consumer.

Graduates in finance are prepared to pursue careers as analysts, financial manager, banking, consumer lending, brokerage services, financial planning, portfolio management, and real estate.

Finance majors are expected to develop a broad understanding of business management, accounting, economic theory, management information systems, and quantitative techniques. In addition, effective written and oral communication skills and the ability to work in groups are essential for a successful career in finance. The curriculum of the Department of Finance is designed to help the student develop these necessary skills through active learning methods.

Bachelor of Science in Business Administration

Finance (BSBA)

Finance majors will develop a broad understanding of business management, accounting, economic theory, management information systems, and quantitative techniques. In addition, effective written and oral communication skills and the ability to work in groups are essential for a successful career in finance. The curriculum of the Department of Finance is designed to help the student develop these necessary skills through active learning methods..

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirement (44 credit hours)

The curriculum for this major assumes students enter college prepared to take Calculus.

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
ECON 110 - Principles of Macroeconomics **Credits:** 3
ECON 120 - Principles of Microeconomics **Credits:** 3
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset **Credits:** 3
GENBA 105 - Business Orientation **Credits:** 0-1
GENBA 205 - Career Accelerator **Credits:** 0-1
FINAN 450 - Principles of Finance **Credits:** 3
MANGT 220 - Principles of Management **Credits:** 3
MANGT 366 - Information Systems and Business Analytics **Credits:** 3
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
MANGT 595 - Strategic Management **Credits:** 3
MANGT 596 - Business Ethics and Corporate Citizenship **Credits:** 3
MATH 205 - General Calculus **Credits:** 3
MKTG 250 - Introduction to Marketing **Credits:** 3
STAT 225 - Introduction to Statistics **Credits:** 3
OR
STAT 250 - Business and Economic Statistics I **Credits:** 3

Program (42 credit hours)

Major Field Requirements - (18 credit hours)

ACCTG 331 - Intermediate Accounting and Analytics I **Credits:** 3
FINAN 510 - Financial Institutions and Markets **Credits:** 3
FINAN 520 - Investments **Credits:** 3
FINAN 575 - Intermediate Finance **Credits:** 3
FINAN 623 - Financial Modeling **Credits:** 3
FINAN 675 - Cases in Finance **Credits:** 3

Major Field Electives - (15 credit hours)

Select 5 courses from list below:

ACCTG 342 - Taxation I **Credits:** 3
ACCTG 413 - Accounting Information Systems **Credits:** 3
ACCTG 432 - Cost Accounting **Credits:** 3
ACCTG 433 - Intermediate Accounting and Analytics II **Credits:** 3
ACCTG 445 - Financial Statement Analysis **Credits:** 3
FINAN 460 - Insurance **Credits:** 3
FINAN 531 - Commercial Banking **Credits:** 3
FINAN 552 - Real Estate **Credits:** 3
FINAN 620 - Fixed Income Securities and Markets **Credits:** 3
FINAN 643 - International Financial Management **Credits:** 3
FINAN 653 - Security and Portfolio Analysis **Credits:** 3
FINAN 654 - Derivative Securities and Markets **Credits:** 3
FINAN 655 - Advanced Portfolio Management **Credits:** 3
FINAN 661 - Professional Financial Planning **Credits:** 3
FINAN 663 - Mergers and Acquisition **Credits:** 3
STAT 351 - Business and Economic Statistics II **Credits:** 3

Economics Elective (3 credit hours)

Choose one course from the following:

ECON 510 - Intermediate Macroeconomics **Credits:** 3
ECON 520 - Intermediate Microeconomics **Credits:** 3
ECON 521 - Intermediate Microeconomic Theory **Credits:** 3
ECON 530 - Money and Banking **Credits:** 3
ECON 540 - Managerial Economics **Credits:** 3

Required Elective - 3 credit hours

Choose one of the following:

ACCTG 445 - Financial Statement Analysis **Credits:** 3
ENGL 417 - Written Communication for the Workplace **Credits:** 3

GENBA 145 - Business and Society **Credits:** 3
MANGT 230 - Business Law I **Credits:** 3
SALES 300 - Fundamentals of Professional Selling **Credits:** 3

Unrestricted Electives (3 credit hours)

Any course numbered 100-level or above offered for credit by a university department. Students are strongly encouraged to use their unrestricted electives to complete for-credit experiential learning opportunities, such as internships, community service/engagement, and study abroad.

Total Hours Required for Graduation: 120

Undergraduate Certificate

Investment Management Undergraduate Certificate

The Certificate in Investment Management is intended for those students who have interests in personal investing or in the investment management industry. The required courses are designed to provide these students with the fundamentals of investing and a broader business perspective of the investment management industry. After completing this certificate students will be able to:

- Apply the principles of financial analysis to issues specific to the investment management industry, including the valuation of financial assets using fundamental analysis, the use of technical analysis for asset selection, and trading of assets in financial markets.
- Describe the role of each of the four major functional areas (accounting, finance, management, marketing, and information technology) in the investment management firm and illustrate the contributions of these areas to the success of the firm.
- Explore the legal and ethical environments within which investment management firms operate.
- Analyze financial statements and show their relationship to security valuation.
- Identify personal and professional skills necessary for success in the investment management industry.

In addition to three required courses, students seeking the certificate will also choose two elective courses best suited for their personal career choices. These courses are designed to provide further knowledge in specific functional areas.

Students who have earned this Certificate will be able to distinguish themselves by demonstrating competency in personal investing or the investment management industry.

Certificate Requirements

All students enrolled in the Certificate will take 9 credit hours of the core, and choose six credit hours from eligible electives.

Core Courses (9 credit hours)

FINAN 450 - Principles of Finance **Credits:** 3
FINAN 451 - Introduction to Integrated Investment Management **Credits:** 3
FINAN 500 - Investment Management Concepts **Credits:** 3

Elective Courses (6 credit hours)

Select 2 of the following four courses

ACCTG 445 - Financial Statement Analysis **Credits:** 3
AGEC 520 - Market Fundamentals and Futures/Options Trading **Credits:** 3
COMM 526 - Persuasion **Credits:** 3
ECON 530 - Money and Banking **Credits:** 3
IMSE 530 - Engineering Economic Analysis **Credits:** 2
and
IMSE 532 - Industrial Project Evaluation **Credits:** 1
MATH 501 - Mathematical Foundations of Actuarial Science **Credits:** 3
SALES 300 - Fundamentals of Professional Selling **Credits:** 3
PFP 305 - Advanced Personal Financial Planning **Credits:** 3

Course and Certificate Completion Notes

Students must earn a minimum of 2.5 GPA on courses taken to fulfill the requirements of the Certificate in Integrated Investment Management.

No more than 25% of total credit hours required for the certificate may be transfer credits. Students must earn at least 75% of credits that apply to the certificate from Kansas State University or an approved university affiliate of Kansas State University in a foreign country.

Certificate can be completed by degree seeking students at Kansas State University or obtained as a credential on its own (free-standing). Students who do not intend to become a candidate for a bachelor's degree at Kansas State University must apply for admission as a non-degree, certificate-seeking student. Such students must submit the admission application, application fee, and transcripts. Applicants must provide documentation of high school or GED completion and, if college courses have been attempted, official transcripts demonstrating a cumulative GPA of 2.0 or higher for all post-secondary coursework. Students who later choose to pursue a bachelor's degree must apply for admission as a degree-seeking student.

FINAN 510 - Financial Institutions and Markets **Credits:** 3
and
FINAN 520 - Investments **Credits:** 3

Certificate can be completed by degree seeking students at Kansas State University or obtained as a credential on its own (free-standing). Students who do not intend to become a candidate for a bachelor's degree at Kansas State University must apply for admission as a non-degree, certificate-seeking student. Such students must submit the admission application, application fee, and transcripts. Applicants must provide documentation of high school or GED completion and, if college courses have been attempted, official transcripts demonstrating a cumulative GPA of 2.0 or higher for all post-secondary coursework. Students who later choose to pursue a bachelor's degree must apply for admission as a degree-seeking student.

Total credit hours: 15

Other Program Choices

Finance (BSBA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		

ECON 110 - Principles of Macroeconomics	3	
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset	3	
MATH 100 - College Algebra	3	**KSC 030**
ENGL 100 - Expository Writing I	3	**KSC 010**
GENBA 105 - Business Orientation	0-1	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits:16		
Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
ECON 120 - Principles of Microeconomics	3	
MANGT 220 - Principles of Management	3	
MATH 205 - General Calculus	3	
Natural & Physical Sciences Requirement	4	**KSC 040**
Total Credits: 16		
Second Year		
Semester 1		
ACCTG 231 - Introduction to Managerial Accounting	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
GENBA 205 - Career Accelerator	0-1	
MKTG 250 - Introduction to Marketing	3	
STAT 225 - Introduction to Statistics	3	
STAT 250 - Business and Economic Statistics I	3	
Social & Behavorial Sciences Requirement	3	**KSC 050**

Total Credits: 16		
Semester 2		
ACCTG 241 - Introduction to Financial Accounting	3	
FINAN 450 - Principles of Finance	3	
MANGT 366 - Information Systems and Business Analytics	3	
MANGT 421 - Introduction to Operations and Supply Chain Management	3	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Third Year		
Semester 1		
ACCTG 331 - Intermediate Accounting and Analytics I	3	
FINAN 510 - Financial Institutions and Markets	3	
FINAN 520 - Investments	3	
Finance Elective	3	
Total Credits: 12		
Semester 2		
FINAN 575 - Intermediate Finance	3	
Finance Elective	3	
ECON Elective. Please choose one course from list below.		
ECON 510 - Intermediate Macroeconomics **OR**	3	
ECON 520 - Intermediate Microeconomics **OR**	3	
ECON 521 - Intermediate Microeconomic Theory **OR**	3	

ECON 530 - Money and Banking **OR**	3	
ECON 540 - Managerial Economics **OR**	3	
Finance Elective	3	
Social & Behavorial Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Fourth Year		
Semester 1		
FINAN 623 - Financial Modeling	3	
Finance Elective	3	
Business Elective. Choose one course from list below.		
ENGL 417 - Written Communication for the Workplace **OR**	3	
GENBA 145 - Business and Society **OR**	3	
MANGT 230 - Business Law I **OR**	3	
SALES 300 - Fundamentals of Professional Selling **OR**	3	
ACCTG 445 - Financial Statement Analysis **OR**	3	
MANGT 595 - Strategic Management	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
FINAN 675 - Cases in Finance	3	
MANGT 596 - Business Ethics and Corporate Citizenship	3	
FINAN Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**

Unrestricted Elective	3		
Total Credits: 15			
Total Program Hours: 120			

Management

William Turnley, Department Head

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Web page

The curriculum in management presents three on-campus majors: entrepreneurship, management, and management information systems (MIS). Through the Department of Management, the College of Business Administration also offers a general business degree taught using distance learning technology. This major is available only to off-campus students.

Management majors select an area of emphasis in human resource management, and supply chain operations management, or organizational management and entrepreneurship. Students in many academic disciplines need management and supervisory skills in order to advance in their chosen profession. Students in all management majors will learn how to apply management concepts and principles to improve services, products, and operations within organizations across a wide array of industries.

Bachelor of Science in Business Administration

Entrepreneurship and Innovation (BSBA)

The program will:

- Provide a full range of coursework aimed at assisting students with the creation and development of new venture ideas, and the skills to develop a marketing plan, financial plan and a complete business plan for their ideas.
- Establish stronger connections to local entrepreneurs and small business owners to serve as advisors and mentors for the K-State academic departments and students.
- Provide an avenue for students who are budding entrepreneurs to more fully prepare for the realities of business as they start their new ventures.
- Allow K-State to compete for the growing number of students who desire the opportunity to study the entrepreneurial process within the context of business.
- Provide additional integration with the established structure of entrepreneurship opportunities within the K-State community (i.e., Innovation Partners, Technology Development).
- Provide courses that will be available to all majors across the K-State academic environment, so that those outside the College of Business have access to information on starting up new business ventures.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirement: (44 credit hours)

The curriculum for this major assumes students enter college prepared to take Calculus.

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
ECON 110 - Principles of Macroeconomics **Credits:** 3
ECON 120 - Principles of Microeconomics **Credits:** 3
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset **Credits:** 3
FINAN 450 - Principles of Finance **Credits:** 3
GENBA 105 - Business Orientation **Credits:** 0-1
GENBA 205 - Career Accelerator **Credits:** 0-1
MANGT 220 - Principles of Management **Credits:** 3
MANGT 366 - Information Systems and Business Analytics **Credits:** 3
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
MANGT 595 - Strategic Management **Credits:** 3
MANGT 596 - Business Ethics and Corporate Citizenship **Credits:** 3
MATH 205 - General Calculus **Credits:** 3
MKTG 250 - Introduction to Marketing **Credits:** 3
STAT 225 - Introduction to Statistics **Credits:** 3
OR
STAT 250 - Business and Economic Statistics I **Credits:** 3

Major Field Requirement: (42 credit hours)

Major Field Requirements: (12 credit hours)

ENTRP 540 - Entrepreneurial Consulting **Credits:** 3
ENTRP 575 - Entrepreneurship and Innovation Capstone **Credits:** 3
FINAN 561 - Finance for Entrepreneurs **Credits:** 3
MANGT 523 - Human Resources Analytics **Credits:** 3
OR
MANGT 525 - Organizational Management and Data Analytics **Credits:** 3
OR
STAT 351 - Business and Economic Statistics II **Credits:** 3

Major Field Electives: (15 credit hours)

Pick five courses from the list below:

ENTRP 350 - Technology and Innovation Management **Credits:** 3
ENTRP 411 - Intrapreneurship **Credits:** 3
ENTRP 435 - Entrepreneurial Experience **Credits:** 3
ENTRP 440 - Entrepreneurship **Credits:** 3
ENTRP 466 - Digital Business **Credits:** 3
ENTRP 520 - Social Entrepreneurship **Credits:** 3
MANGT 230 - Business Law I **Credits:** 3
MANGT 531 - Human Resources Management **Credits:** 3

Required Elective: (3 credit hours)

Choose one course from list below:

ENGL 417 - Written Communication for the Workplace **Credits:** 3
GENBA 145 - Business and Society **Credits:** 3
MANGT 230 - Business Law I **Credits:** 3
ACCTG 445 - Financial Statement Analysis **Credits:** 3
FINAN 451 - Introduction to Integrated Investment Management **Credits:** 3
SALES 300 - Fundamentals of Professional Selling **Credits:** 3

Unrestricted Electives: (12 credit hours)

Any course numbered 100-level or above offered for credit by a university department. Students are strongly encouraged to use their unrestricted electives to complete for-credit experiential learning opportunities, such as internships, community service/engagement, and study abroad.

Total Hours Required for Graduation: 120

Management - Human Resource Management (BSBA)

Management - Human Resource Management (Sub-Plan)

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (44 credit hours)

The curriculum for this major assumes students enter college prepared to take Calculus.

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
GENBA 105 - Business Orientation **Credits:** 0-1
GENBA 205 - Career Accelerator **Credits:** 0-1
ECON 110 - Principles of Macroeconomics **Credits:** 3
ECON 120 - Principles of Microeconomics **Credits:** 3
MATH 205 - General Calculus **Credits:** 3
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset **Credits:** 3
MANGT 220 - Principles of Management **Credits:** 3
MKTG 250 - Introduction to Marketing **Credits:** 3
STAT 225 - Introduction to Statistics **Credits:** 3
OR
STAT 250 - Business and Economic Statistics I **Credits:** 3
FINAN 450 - Principles of Finance **Credits:** 3
MANGT 366 - Information Systems and Business Analytics **Credits:** 3
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
MANGT 595 - Strategic Management **Credits:** 3
MANGT 596 - Business Ethics and Corporate Citizenship **Credits:** 3

Major Requirements: (42 credit hours)

Major Field Requirements: (18 credit hours)

MANGT 520 - Organizational Behavior **Credits:** 3
MANGT 523 - Human Resources Analytics **Credits:** 3
OR
MANGT 525 - Organizational Management and Data Analytics **Credits:** 3
OR
STAT 351 - Business and Economic Statistics II **Credits:** 3
MANGT 535 - Employment Law **Credits:** 3
MANGT 531 - Human Resources Management **Credits:** 3
MANGT 623 - Compensation and Performance Management **Credits:** 3
MANGT 643 - Organizational Staffing **Credits:** 3

Major Field Electives: (12 credit hours)

Choose 4 courses from list below:

MANGT 260 - Workplace Dynamics and Organizational Culture **Credits:** 3
MANGT 530 - Labor Relations and Negotiations **Credits:** 3
MANGT 550 - Organizational Training and Development **Credits:** 3
MANGT 590 - International Management **Credits:** 3

Restricted Elective: (3 credit hours)

Please choose one course from the following:

ENGL 417 - Written Communication for the Workplace **Credits:** 3
GENBA 145 - Business and Society **Credits:** 3
MANGT 230 - Business Law I **Credits:** 3
ACCTG 445 - Financial Statement Analysis **Credits:** 3
FINAN 451 - Introduction to Integrated Investment Management **Credits:** 3
SALES 300 - Fundamentals of Professional Selling **Credits:** 3

Unrestricted Electives: (9 credit hours)

Any course numbered 100-level or above offered for credit by a university department. Students are strongly encouraged to use their unrestricted electives to complete for-credit experiential learning opportunities, such as internships, community service/engagement, and study abroad.

Total Hours Required for Graduation: 120

Management - Organizational Management (BSBA)

Kansas State University Core: 34-36 Credit Hours

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General Education: K-State Core

Program Requirements

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
ECON 110 - Principles of Macroeconomics **Credits:** 3
ECON 120 - Principles of Microeconomics **Credits:** 3
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset **Credits:** 3
FINAN 450 - Principles of Finance **Credits:** 3
GENBA 105 - Business Orientation **Credits:** 0-1
GENBA 205 - Career Accelerator **Credits:** 0-1
MANGT 595 - Strategic Management **Credits:** 3
MANGT 596 - Business Ethics and Corporate Citizenship **Credits:** 3
MANGT 220 - Principles of Management **Credits:** 3
MANGT 366 - Information Systems and Business Analytics **Credits:** 3
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
MATH 205 - General Calculus **Credits:** 3
MKTG 250 - Introduction to Marketing **Credits:** 3

STAT 225 - Introduction to Statistics **Credits:** 3
OR
STAT 250 - Business and Economic Statistics I **Credits:** 3

Major Courses: (42 credit hours)

Major Field Requirements: (15 credit hours)

MANGT 520 - Organizational Behavior **Credits:** 3
MANGT 523 - Human Resources Analytics **Credits:** 3
OR
MANGT 525 - Organizational Management and Data Analytics **Credits:** 3
OR
STAT 351 - Business and Economic Statistics II **Credits:** 3
MANGT 531 - Human Resources Management **Credits:** 3
MANGT 590 - International Management **Credits:** 3
MANGT 553 - Business Project Management **Credits:** 3

Degree Electives: (12 Credit hours)

Choose four courses for 12 credit hours from below:

ENTRP 350 - Technology and Innovation Management **Credits:** 3
ENTRP 411 - Intrapreneurship **Credits:** 3
ENTRP 466 - Digital Business **Credits:** 3
ENTRP 520 - Social Entrepreneurship **Credits:** 3
ENTRP 540 - Entrepreneurial Consulting **Credits:** 3
MANGT 230 - Business Law I **Credits:** 3
MANGT 260 - Workplace Dynamics and Organizational Culture **Credits:** 3
MANGT 330 - Business Law II **Credits:** 3
MANGT 450 - Non-Profit Management **Credits:** 3
MANGT 490 - Undergraduate Research Experience **Credits:** 0-3
MANGT 491 - International Management Experience **Credits:** 3
MANGT 495 - Management Internship **Credits:** 1-3
MANGT 515 - Managerial Consulting **Credits:** 3
MANGT 521 - Managerial Decision Analytics **Credits:** 3
MANGT 530 - Labor Relations and Negotiations **Credits:** 3
MANGT 535 - Employment Law **Credits:** 3
MANGT 541 - Management of Quality **Credits:** 3
MANGT 630 - Sports Management **Credits:** 3
MANGT 550 - Organizational Training and Development **Credits:** 3

Required Course: (3 credit hours)

Choose one course from the list below:

ENGL 417 - Written Communication for the Workplace **Credits:** 3
GENBA 145 - Business and Society **Credits:** 3

MANGT 230 - Business Law I **Credits:** 3
ACCTG 445 - Financial Statement Analysis **Credits:** 3
FINAN 451 - Introduction to Integrated Investment Management **Credits:** 3
SALES 300 - Fundamentals of Professional Selling **Credits:** 3

Unrestricted Electives: (12 credit hours)

Any course numbered 100-level or above offered for credit by a university department. Students are strongly encouraged to use their unrestricted electives to complete for-credit experiential learning opportunities, such as internships, community service/engagement, and study abroad.

Total Hours Required for Graduation: 120

Management - Strategic Management (BSBA)

The Strategic Management (SM) track is designed for students interested in how businesses develop and implement strategies effectively while leveraging resources efficiently to achieve a sustainable competitive advantage. By taking courses such as Strategic Management, International Management, Managerial Consulting, and Data Analytics, students gain the knowledge and skills necessary to manage various business operations and develop data-driven solutions to complex business problems. Graduates of this track are well-equipped for a wide range of industries and careers, including management consulting, project management, and business analyst.

Kansas State University Core: 34-36 Credit Hours

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General Education: K-State Core

Program Requirements

The curriculum for this major assumes students enter college prepared to take Calculus.

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
ECON 110 - Principles of Macroeconomics **Credits:** 3
ECON 120 - Principles of Microeconomics **Credits:** 3
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset **Credits:** 3
FINAN 450 - Principles of Finance **Credits:** 3
GENBA 105 - Business Orientation **Credits:** 0-1
GENBA 205 - Career Accelerator **Credits:** 0-1
MANGT 595 - Strategic Management **Credits:** 3

MANGT 596 - Business Ethics and Corporate Citizenship **Credits:** 3
MANGT 220 - Principles of Management **Credits:** 3
MANGT 366 - Information Systems and Business Analytics **Credits:** 3
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
MATH 205 - General Calculus **Credits:** 3
MKTG 250 - Introduction to Marketing **Credits:** 3
STAT 225 - Introduction to Statistics **Credits:** 3
OR
STAT 250 - Business and Economic Statistics I **Credits:** 3

Major Courses: (42 credit hours)

Major Field Requirements: (15 credit hours)

MANGT 520 - Organizational Behavior **Credits:** 3
MANGT 523 - Human Resources Analytics **Credits:** 3
OR
MANGT 525 - Organizational Management and Data Analytics **Credits:** 3
OR
STAT 351 - Business and Economic Statistics II **Credits:** 3
MANGT 531 - Human Resources Management **Credits:** 3
MANGT 590 - International Management **Credits:** 3
MANGT 553 - Business Project Management **Credits:** 3

Degree Electives: (12 Credit hours)

Choose four courses for 12 credit hours from below:

ENTRP 350 - Technology and Innovation Management **Credits:** 3
ENTRP 411 - Intrapreneurship **Credits:** 3
ENTRP 466 - Digital Business **Credits:** 3
ENTRP 520 - Social Entrepreneurship **Credits:** 3
ENTRP 540 - Entrepreneurial Consulting **Credits:** 3
MANGT 230 - Business Law I **Credits:** 3
MANGT 260 - Workplace Dynamics and Organizational Culture **Credits:** 3
MANGT 330 - Business Law II **Credits:** 3
MANGT 450 - Non-Profit Management **Credits:** 3
MANGT 490 - Undergraduate Research Experience **Credits:** 0-3
MANGT 491 - International Management Experience **Credits:** 3
MANGT 495 - Management Internship **Credits:** 1-3
MANGT 515 - Managerial Consulting **Credits:** 3
MANGT 521 - Managerial Decision Analytics **Credits:** 3
MANGT 530 - Labor Relations and Negotiations **Credits:** 3
MANGT 535 - Employment Law **Credits:** 3
MANGT 541 - Management of Quality **Credits:** 3
MANGT 630 - Sports Management **Credits:** 3
MANGT 550 - Organizational Training and Development **Credits:** 3

Required Course: (3 credit hours)

Choose one course from the list below:

ENGL 417 - Written Communication for the Workplace **Credits:** 3
GENBA 145 - Business and Society **Credits:** 3
MANGT 230 - Business Law I **Credits:** 3
ACCTG 445 - Financial Statement Analysis **Credits:** 3
FINAN 451 - Introduction to Integrated Investment Management **Credits:** 3
SALES 300 - Fundamentals of Professional Selling **Credits:** 3

Unrestricted Electives: (12 credit hours)

Any course numbered 100-level or above offered for credit by a university department. Students are strongly encouraged to use their unrestricted electives to complete for-credit experiential learning opportunities, such as internships, community service/engagement, and study abroad.

Total Hours Required for Graduation: 120

Management Information Systems (BSBA)

The management information systems major focuses on the technical and conceptual skills needed to help organizations solve problems using technological and digital solutions. The role of the information systems professional requires knowledge of systems applications and data management tools, as well as a broad understanding of how such systems and technology can be applied to business processes.

The K-State MIS program is designed to produce graduates who are business application developers, especially in team project settings. Organizations recognize the need for analysts and developers that understand both business and technology, particularly in functional areas such as marketing, accounting, finance, human resources, supply chain management, and general management.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: 44 credit hours

The curriculum for this major assumes students enter college prepared to take Calculus.

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
ECON 110 - Principles of Macroeconomics **Credits:** 3
ECON 120 - Principles of Microeconomics **Credits:** 3
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset **Credits:** 3
FINAN 450 - Principles of Finance **Credits:** 3
GENBA 105 - Business Orientation **Credits:** 0-1
GENBA 205 - Career Accelerator **Credits:** 0-1
MANGT 220 - Principles of Management **Credits:** 3
MANGT 366 - Information Systems and Business Analytics **Credits:** 3
OR
MIS 366 - Introduction to Business Analytics and Information Systems **Credits:** 3
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
MANGT 595 - Strategic Management **Credits:** 3
MANGT 596 - Business Ethics and Corporate Citizenship **Credits:** 3
MATH 205 - General Calculus **Credits:** 3
MKTG 250 - Introduction to Marketing **Credits:** 3
STAT 225 - Introduction to Statistics **Credits:** 3
OR
STAT 250 - Business and Economic Statistics I **Credits:** 3

Management Information Track: 42 credit hours

Information Systems Track

or

Data Analytics Track

Information Systems Track Major Field Requirements: 27 credit hours

Major Field Requirements

MANGT 520 - Organizational Behavior **Credits:** 3
MIS 411 - Business Programming Applications **Credits:** 3
MIS 422 - Business Database and SQL **Credits:** 3
MIS 433 - ERP Project Planning and Implementation **Credits:** 3
MIS 444 - Business Networks and Security **Credits:** 3
MIS 555 - Cloud Computing with Business Programming Applications **Credits:** 3
MIS 566 - Systems Analysis and Design **Credits:** 3
MIS 665 - Business Analytics and Data Mining **Credits:** 3
MIS 667 - Applications of Data Models in Business **Credits:** 3

Required Elective 3 credit hours

Choose one course from list below:

ACCTG 445 - Financial Statement Analysis **Credits:** 3
ENGL 417 - Written Communication for the Workplace **Credits:** 3

FINAN 451 - Introduction to Integrated Investment Management **Credits:** 3
GENBA 145 - Business and Society **Credits:** 3
MANGT 230 - Business Law I **Credits:** 3
SALES 300 - Fundamentals of Professional Selling **Credits:** 3

Unrestricted Electives: 12 credit hours

Any course offered by the University 100 level or above.

Data Analytics Track: 42 credit hours

Information Systems Track

or

Data Analytics Track

Data Analytics Track Major Field Requirements: 15 credit hours

Major Field Requirements

MIS 422 - Business Database and SQL **Credits:** 3
MIS 665 - Business Analytics and Data Mining **Credits:** 3
MIS 670 - Social Media Analytics and Web Mining **Credits:** 3
MIS 667 - Applications of Data Models in Business **Credits:** 3
MKTG 480 - Marketing Analytics Fundamentals **Credits:** 3

Restricted Computational Electives:3 credit hours

Choose 1 course from list below.*Students may take one of MIS 411, CC 110/CC 111 to count toward restricted computational electives since they cover similar material

MIS 411 - Business Programming Applications **Credits:** 3
OR
CC 110 - Introduction to Computing **Credits:** 2
CC 111 - Elements of Computer Programming **Credits:** 1
CIS 200 - Programming Fundamentals **Credits:** 4
MIS 555 - Cloud Computing with Business Programming Applications **Credits:** 3
MIS 566 - Systems Analysis and Design **Credits:** 3

Restricted Digital Technology & Analytics Electives: 6 credit hours

Pick 2 courses from list below

CIS 531 - Introduction to Programming Techniques for Data Science and Analytics **Credits:** 3
ENTRP 466 - Digital Business **Credits:** 3
FINAN 623 - Financial Modeling **Credits:** 3
IMSE 785 - Big Data Analytics **Credits:** 3
MANGT 521 - Managerial Decision Analytics **Credits:** 3

MANGT 523 - Human Resources Analytics **Credits:** 3
MANGT 525 - Organizational Management and Data Analytics **Credits:** 3
MANGT 663 - Supply Chain Analytics **Credits:** 3
MIS 433 - ERP Project Planning and Implementation **Credits:** 3
MIS 444 - Business Networks and Security **Credits:** 3
MIS 677 - Senior MIS Project **Credits:** 3
MKTG 551 - Data Narratives and Visualization **Credits:** 3
MKTG 650 - Digital Marketing Analysis and Strategy **Credits:** 3
MKTG 653 - Applications of Marketing Analytics **Credits:** 3
MKTG 654 - Marketing Research **Credits:** 3
STAT 705 - Regression and Analysis of Variance **Credits:** 3

Required Elective 3 credit hours

Choose 1 course from list below:

ACCTG 445 - Financial Statement Analysis **Credits:** 3
ENGL 417 - Written Communication for the Workplace **Credits:** 3
FINAN 451 - Introduction to Integrated Investment Management **Credits:** 3
GENBA 145 - Business and Society **Credits:** 3
MANGT 230 - Business Law I **Credits:** 3
SALES 300 - Fundamentals of Professional Selling **Credits:** 3

DA Unrestricted Electives: 15 credit hours

Any course offered by the University 100 level or above.

Total Hours Required for Graduation: 120

Operations and Supply Chain Management (BSBA)

The program will:

Provide knowledge and skills adequate to assume supply chain management positions in a broad spectrum of organizations.
Prepare students for careers in procurement management, manufacturing operations, warehousing, logistics, and transportation management in organizations that produce, sell, and distribute goods and services to end customers
Provide knowledge of how global supply chains operate and the skills to make decisions to support strategic, tactical, and operational activities to manage efficient and effective supply chains.
Prepare students for ethical decision-making practices that are associated with managing relationships with supplier and customer organizations.
Provide a full range of coursework on how to apply analytical techniques and utilize data to better orchestrate the actions of various entities involved in the supply chain, such as manufacturers, vendors, transportation companies, distribution centers, and retailers.

Kansas State University Core: 34-36 Credit Hours

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General Education: K-State Core

Program Requirements (44 credit hours)

The curriculum for this major assumes students enter college prepared to take Calculus.

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
ECON 110 - Principles of Macroeconomics **Credits:** 3
ECON 120 - Principles of Microeconomics **Credits:** 3
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset **Credits:** 3
FINAN 450 - Principles of Finance **Credits:** 3
GENBA 205 - Career Accelerator **Credits:** 0-1
GENBA 105 - Business Orientation **Credits:** 0-1
MANGT 220 - Principles of Management **Credits:** 3
MANGT 366 - Information Systems and Business Analytics **Credits:** 3
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
MANGT 595 - Strategic Management **Credits:** 3
MANGT 596 - Business Ethics and Corporate Citizenship **Credits:** 3
MATH 205 - General Calculus **Credits:** 3
MKTG 250 - Introduction to Marketing **Credits:** 3
STAT 225 - Introduction to Statistics **Credits:** 3

OSCM Major Courses: (42 credit hours)

Major Field Requirements: (18 credit hours)

MANGT 520 - Organizational Behavior **Credits:** 3
MANGT 521 - Managerial Decision Analytics **Credits:** 3
MANGT 553 - Business Project Management **Credits:** 3
MANGT 561 - Transportation and Warehouse Management **Credits:** 3
MANGT 660 - Supply Chain Planning and Control **Credits:** 3
MANGT 662 - Procurement, Logistics and Supply Chain Design **Credits:** 3

Degree Electives: (9 credit hours)

Choose 3 courses for 9 credit hours from below:

MANGT 230 - Business Law I **Credits:** 3
MANGT 541 - Management of Quality **Credits:** 3
MANGT 663 - Supply Chain Analytics **Credits:** 3

MIS 665 - Business Analytics and Data Mining **Credits:** 3
OR
MIS 670 - Social Media Analytics and Web Mining **Credits:** 3
SALES 300 - Fundamentals of Professional Selling **Credits:** 3
OR
SALES 455 - Sales Negotiation **Credits:** 3

Required Elective: (3 credit hours)

Choose one of the following:

ACCTG 445 - Financial Statement Analysis **Credits:** 3
ENGL 417 - Written Communication for the Workplace **Credits:** 3
FINAN 451 - Introduction to Integrated Investment Management **Credits:** 3
GENBA 145 - Business and Society **Credits:** 3
MANGT 230 - Business Law I **Credits:** 3

Unrestricted Electives: (12 credit hours)

Total Hours Required for Graduation: 120

Minor

Entrepreneurship and Innovation Minor

The minor will develop student's capacity to understand the financial, marketing, managerial, and operational sides of starting and running a successful business as well as focus on how these skills can be utilized in corporate or nonprofit settings.

Required Course (6 cr hrs for Non-Business Majors or 3 cr hrs for Business Majors)

ENTRP 340 - Business Innovation and the Entrepreneurial Mindset **Credits:** 3 *
ENTRP 575 - Entrepreneurship and Innovation Capstone **Credits:** 3

Electives (9 cr hrs for Non-Business Majors or 12 cr hrs for Business Majors)

ENGL 455 - Exploring Creativity **Credits:** 3
ENTRP 350 - Technology and Innovation Management **Credits:** 3
ENTRP 411 - Intrapreneurship **Credits:** 3
ENTRP 435 - Entrepreneurial Experience **Credits:** 3
ENTRP 440 - Entrepreneurship **Credits:** 3
ENTRP 466 - Digital Business **Credits:** 3
ENTRP 520 - Social Entrepreneurship **Credits:** 3
ENTRP 540 - Entrepreneurial Consulting **Credits:** 3
FINAN 561 - Finance for Entrepreneurs **Credits:** 3

Total required hours: (15)

Note:

*ENTRP 340 is in the business core and is required of all Business Majors. Thus, Business Majors are required to take 12 credit hours of electives (instead of 9 credit hours) to fulfill the requirements for the minor.

Management Minor

The management minor is targeted toward non-business and non-management business majors. Students in many academic disciplines need management and supervisory skills in order to advance in their chosen profession. Students will learn how to apply management concepts and principles to improve services, products, and operations within organizations across a wide array of industries.

The minor is flexible by design. Non-business students will take the introductory management course, plus four courses drawn from a multidisciplinary list of options, allowing students to incorporate an emphasis in the area of management (e.g., human resources, organizational behavior, operations management, sports management, international management, or business law) that best meets their needs. Non-management business students take two entry-level courses in organizational behavior (how to motivate and lead people) and human resources (personnel systems and tools). The other three elective courses come from the above areas that best meets their needs.

The minor consists of 15 credit hours. Management majors are not allowed to complete the management minor.

At least three of the five courses must be completed at Kansas State University. Prior permission is required from the College of Business Administration to take a class at another institution. Prerequisites and requisites associated with the management courses must be followed. The minor will be awarded upon or after being awarded a baccalaureate degree and students must earn a minimum 2.50 KSU cumulative GPA across all five courses to graduate with the minor.

Non-Business Majors (15 hours)

MANGT 220 - Principles of Management **Credits:** 3
MANGT 520 - Organizational Behavior **Credits:** 3
MANGT 531 - Human Resources Management **Credits:** 3

Management Electives: (6 hours)

Non-Business Majors. Choose 2 courses from list below (6 hours):

MANGT 230 - Business Law I **Credits:** 3
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
MANGT 450 - Non-Profit Management **Credits:** 3
MANGT 497 - Topics in Management **Credits:** 1-3
MANGT 515 - Managerial Consulting **Credits:** 3
MANGT 523 - Human Resources Analytics **Credits:** 3
MANGT 525 - Organizational Management and Data Analytics **Credits:** 3
MANGT 530 - Labor Relations and Negotiations **Credits:** 3
MANGT 535 - Employment Law **Credits:** 3
MANGT 550 - Organizational Training and Development **Credits:** 3

MANGT 553 - Business Project Management **Credits:** 3
MANGT 260 - Workplace Dynamics and Organizational Culture **Credits:** 3
MANGT 590 - International Management **Credits:** 3
MANGT 623 - Compensation and Performance Management **Credits:** 3
MANGT 630 - Sports Management **Credits:** 3
MANGT 643 - Organizational Staffing **Credits:** 3

Business (Non-Management) Majors. Choose 3 courses from list below (9 hours):

MANGT 230 - Business Law I **Credits:** 3
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
MANGT 450 - Non-Profit Management **Credits:** 3
MANGT 497 - Topics in Management **Credits:** 1-3
MANGT 515 - Managerial Consulting **Credits:** 3
MANGT 523 - Human Resources Analytics **Credits:** 3
MANGT 525 - Organizational Management and Data Analytics **Credits:** 3
MANGT 530 - Labor Relations and Negotiations **Credits:** 3
MANGT 535 - Employment Law **Credits:** 3
MANGT 550 - Organizational Training and Development **Credits:** 3
MANGT 553 - Business Project Management **Credits:** 3
MANGT 260 - Workplace Dynamics and Organizational Culture **Credits:** 3
MANGT 590 - International Management **Credits:** 3
MANGT 623 - Compensation and Performance Management **Credits:** 3
MANGT 630 - Sports Management **Credits:** 3
MANGT 643 - Organizational Staffing **Credits:** 3

Total Hours Required: 15

Undergraduate Certificate

Diversity, Equity, Inclusion, and Belonging in Business Undergraduate Certificate

The Diversity, Equity, Inclusion, and Belonging (DEIB) in Business Certificate offers a focused specialty area of study that builds skills related to strategically managing a multicultural and identity diverse workforce. There is an increasing expectation that employees be able to work effectively with colleagues and clients who identify differently from themselves. Furthermore, managers are increasingly expected to understand and be able to apply how DEIB can increase revenue and decrease expenses within their business context. Finally, businesses, consumers, and other stakeholders are increasingly prioritizing corporate social justice.

The purpose of the certificate is four-fold. First, to provide an opportunity for K-State students to deepen their understanding their own perspectives and those of others so they can perform in a culturally intelligent manner. Second, to understand workplace strategies that foster diversity and inclusion and increase employees' sense of belonging. Third, to highlight the business case for diversity and highlight the ways that greater inclusion results in more successful business enterprises. Finally, the certificate helps students distinguish themselves as a leader who is committed to fostering diversity and building belonging in their professional field.

Core Courses: 12 credit hours

MANGT 520 - Organizational Behavior **Credits:** 3
MANGT 260 - Workplace Dynamics and Organizational Culture **Credits:** 3
MANGT 590 - International Management **Credits:** 3

Select one of the following:

AMETH 300 - Intercultural Competence in Institutions **Credits:** 3
LEAD 350 - Culture and Context in Leadership **Credits:** 3

Choose one elective from list below:

AMETH 300 - Intercultural Competence in Institutions **Credits:** 3
AMETH 351 - African American Perspectives **Credits:** 3
AMETH 352 - American Indian Perspectives **Credits:** 3
AMETH 353 - Latina/o Perspectives **Credits:** 3
AMETH 354 - Asian American Perspectives **Credits:** 3
AMETH 450 - Comparative Ethnic Studies **Credits:** 3
ANTH 200 - Introduction to Cultural Anthropology **Credits:** 3
ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3
ANTH 210 - Introduction to Cultural Anthropology, Honors **Credits:** 3
ANTH 220 - Introduction to Linguistic Anthropology **Credits:** 3
ANTH 314 - Introduction to the World's Religions **Credits:** 3
ANTH 318 - Topics in Cultural Anthropology **Credits:** 3
ANTH 513 - Immigrant America **Credits:** 3
ANTH 525 - Language and Culture **Credits:** 3
ANTH 618 - Religion in Culture **Credits:** 3
ANTH 651 - Internship in Applied Anthropology **Credits:** 3
ANTH 715 - Research Methods in Digital Ethnography **Credits:** 3
CNRES 532 - Conflict Resolution across Cultures & Contexts **Credits:** 3
COMM 480 - Intercultural Communication **Credits:** 3
COMM 535 - Communication and Leadership **Credits:** 3
GWSS 105 - Introduction to Gender, Women, and Sexuality Studies **Credits:** 3
GWSS 300 - Selected Studies of Gender, Women, and Sexuality Studies **Credits:** 3
GWSS 305 - Engaging Gender, Women, and Sexuality Studies **Credits:** 3
GWSS 325 - Queer Studies: Concepts, History, and Politics **Credits:** 3
GWSS 335 - Transgender Studies **Credits:** 3
GWSS 550 - Gender and Popular Culture **Credits:** 3
HDFS 552 - Social Justice in a Family Context **Credits:** 3
HIST 330 - History of East Asian Civilizations **Credits:** 3
HIST 331 - Introduction to Japan **Credits:** 3
HIST 332 - Introduction to China **Credits:** 3
HIST 507 - China Since 1644 **Credits:** 3
HIST 508 - Introduction to Modern East Asia **Credits:** 3
HIST 509 - Japan Since 1550 **Credits:** 3
LEAD 350 - Culture and Context in Leadership **Credits:** 3
LEAD 489 - Seminar in International Service-Learning **Credits:** 0-3
MC 573 - Ethics in Mass Communication **Credits:** 3
MC 612 - Diversity in Media **Credits:** 3

POLSC 360 - Race, Ethnicity, and Politics **Credits:** 3
POLSC 545 - The Politics of Developing Nations **Credits:** 3
POLSC 606 - Gender and Politics **Credits:** 3
POLSC 626 - African Politics **Credits:** 3
PSYCH 556 - Multicultural Psychology **Credits:** 3
SOCIO 545 - The Sociology of Women **Credits:** 3
PSYCH 563 - Gender Issues in the Workplace **Credits:** 3
PSYCH 564 - Psychology of the Workplace **Credits:** 3
SOCIO 570 - Race and Ethnic Relations in the USA **Credits:** 3
SOCIO 618 - Religion in Culture **Credits:** 3

Total Hours Required: 12

Managerial Consulting Undergraduate Certificate

The Managerial Consulting Certificate provides specialized training in the management consulting process as it applies to both internal (business development) and external (consulting industry) contexts. Students will learn how to apply consulting tools and frameworks to engage clients, identify and analyze organizational problems, effectively present their findings, formulate recommendations, and implement change initiatives. Through a variety of applied learning experiences, students will sharpen their analytical, critical thinking, interpersonal, and written and oral communication skills. This certificate is relevant to anyone interested in identifying new business opportunities, tasked with managing organizational change, or responsible for client relationships, as well as those seeking traditional consulting careers.

Program Requirements

Admission Requirements: Certificate can be completed by degree-seeking students at Kansas State University or obtained as a credential on its own (free-standing). Students who do not intend to become a candidate for a bachelor's degree at Kansas State University must apply for admission as a non-degree, certificate-seeking student. Such students must submit the admission application, application fee, and transcripts. Applicants must provide documentation of high school or GED completion and, if college courses have been attempted, official transcripts demonstrating a cumulative GPA of 2.0 or higher for all post-secondary coursework. Students who later choose to pursue a bachelor's degree must apply for admission as a degree-seeking student.

Graduation Requirements:

Students must earn at least a 2.5 GPA in all courses taken to fulfill the requirements of the certificate program. Issued by the K-State College of Business Administration, the student's transcript will note the certification.

Required Courses: (9 credit hours)

Note: For business majors, no more than 2 major field requirement courses may be counted toward the certificate.

MANGT 515 - Managerial Consulting **Credits:** 3
ENTRP 540 - Entrepreneurial Consulting **Credits:** 3
Choose one from the courses below: Credits / Units: 3
MANGT 521 - Managerial Decision Analytics **Credits:** 3
OR
MANGT 523 - Human Resources Analytics **Credits:** 3
OR
MANGT 525 - Organizational Management and Data Analytics **Credits:** 3

Certificate Electives (6 credit hours)

Note: For business majors, no more than 2 major field requirement courses may be counted toward the certificate.

Certificate elective options. **Choose two (6 credit hours) courses from the following:**

CNRES 534 - Conflict in Organizations **Credits:** 3
COMM 326 - Group Communication **Credits:** 3
COMM 425 - Organizational Communication **Credits:** 3
COMM 465 - Communication and Conflict **Credits:** 3
ENTRP 350 - Technology and Innovation Management **Credits:** 3
FINAN 623 - Financial Modeling **Credits:** 3
FINAN 663 - Mergers and Acquisition **Credits:** 3
LEAD 200 - Foundations of Leadership of Society **Credits:** 1-3
LEAD 212 - Introduction to Leadership Concepts **Credits:** 2-3
MANGT 260 - Workplace Dynamics and Organizational Culture **Credits:** 3
MANGT 520 - Organizational Behavior **Credits:** 3
MANGT 530 - Labor Relations and Negotiations **Credits:** 3
MANGT 531 - Human Resources Management **Credits:** 3
MANGT 550 - Organizational Training and Development **Credits:** 3
MANGT 553 - Business Project Management **Credits:** 3
PSYCH 425 - Judgment and Decision Making **Credits:** 3
PSYCH 515 - Introduction to Psychology Applied to Work **Credits:** 3
PSYCH 564 - Psychology of the Workplace **Credits:** 3
SOCIO 546 - Bureaucracy in Modern Societies **Credits:** 3

Total Hours Required for Graduation: 15

Supply Chain Management Undergraduate Certificate

Logistics and supply chain management are among the fastest-growing business sectors in the Heartland region, a focal point for the movement and distribution of goods throughout the country. The Supply Chain Management (SCM) Certificate is to provide Kansas State University students with an opportunity to explore and pursue career choices in logistics and supply chain management. Considering the growing attention that supply chain management has received in recent times, students in other business disciplines as well as non-business majors (e.g., agriculture, engineering, etc.) would benefit from developing a solid background on processes related to the flow of material and information from supplier to customer and vice versa.

The SCM Certificate curriculum is designed based on the Supply Chain Operations Reference (SCOR) model, one of the most frequently used references to support the description of supply chains, developed and endorsed by the APICS Supply Chain Council as the gold standard for managing supply chains. The model is organized around the six key supply chain processes: Plan, Source, Make, Deliver, Return, and Enable. The core curriculum of the certificate – MANGT 421, MANGT 561, MANGT 660, and MANGT 662 – provide comprehensive coverage of the key SCOR model processes. After completing the certificate, students should be able to understand the different sourcing and procurement strategies, develop logistics networks that minimize cost and deliver superior customer service, understand how to plan and schedule production activities, know the various modes of transportation, and understand how to design and set up a warehouse facility and learn how to deliver products and services to the ultimate customers.

Admission Requirements

Admission to the Certificate in SCM is open to any Kansas State University students pursuing an undergraduate degree in good standing.

Graduation Requirements

Students must earn a minimum of 2.50 grade point average in courses taken to fulfill the requirements of the Certificate in Supply Chain Management. Furthermore, students must earn at least 9 of the credits hours that apply to the certificate from Kansas State University.

Required Courses (12 credit hours)

MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
MANGT 561 - Transportation and Warehouse Management **Credits:** 3
MANGT 660 - Supply Chain Planning and Control **Credits:** 3
MANGT 662 - Procurement, Logistics and Supply Chain Design **Credits:** 3

Elective Courses (3 credit hours)

Choose ONE of the following:

MANGT 521 - Managerial Decision Analytics **Credits:** 3
MANGT 541 - Management of Quality **Credits:** 3
MANGT 553 - Business Project Management **Credits:** 3
MANGT 663 - Supply Chain Analytics **Credits:** 3

Total Hours Required: 15

Other Program Choices

Entrepreneurship and Innovation (BSBA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset	3	
GENBA 105 - Business Orientation	0-1	
MATH 100 - College Algebra	3	**KSC 030**
Arts & Humanities Requirement	3	**KSC 060**

Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
ECON 110 - Principles of Macroeconomics	3	
MANGT 220 - Principles of Management	3	
MATH 205 - General Calculus	3	
Natural & Physical Sciences Requirement	4	**KSC 040**
Total Credits: 16		
Second Year		
Semester 1		
ECON 120 - Principles of Microeconomics	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
GENBA 205 - Career Accelerator	0-1	
STAT 225 - Introduction to Statistics **OR**	3	
STAT 250 - Business and Economic Statistics I	3	
Entrepreneurship and Innovation Elective	3	
Social and Behavorial Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Semester 2		
ACCTG 231 - Introduction to Managerial Accounting	3	
MKTG 250 - Introduction to Marketing	3	

Entrepreneurship and Innovation Elective	3	
Social & Behavorial Sciences Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Third Year		
Semester 1		
ACCTG 241 - Introduction to Financial Accounting	3	
ENTRP 540 - Entrepreneurial Consulting	3	
MANGT 366 - Information Systems and Business Analytics	3	
Entrepreneurship and Innovation Elective	3	
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Semester 2		
FINAN 450 - Principles of Finance	3	
MANGT 421 - Introduction to Operations and Supply Chain Management	3	
MANGT 525 - Organizational Management and Data Analytics	3	
Entrepreneurship and Innovation Elective	3	
Entrepreneurship and Innovation Elective	3	
Total Credits: 15		
Fourth Year		
Semester 1		
ACCTG 445 - Financial Statement Analysis **OR**	3	

ENGL 417 - Written Communication for the Workplace **OR**	3		
FINAN 451 - Introduction to Integrated Investment Management **OR**	3		
GENBA 145 - Business and Society **OR**	3		
MANGT 230 - Business Law I **OR**	3		
SALES 300 - Fundamentals of Professional Selling	3		
MANGT 595 - Strategic Management	3		
FINAN 561 - Finance for Entrepreneurs	3		
Unrestricted Elective	3		
Unrestricted Elective	3		
Total Credits: 15			
Semester 2			
ENTRP 575 - Entrepreneurship and Innovation Capstone	3		
MANGT 596 - Business Ethics and Corporate Citizenship	3		
Unrestricted Elective	3		
Unrestricted Elective	3		
Total Credits: 12			
Total Program Hours: 120			

Management - Human Resource Management (BSBA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**

ENTRP 340 - Business Innovation and the Entrepreneurial Mindset	3	
GENBA 105 - Business Orientation	0-1	
MATH 100 - College Algebra	3	**KSC 030**
Arts & Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
ECON 110 - Principles of Macroeconomics	3	
MANGT 220 - Principles of Management	3	
MATH 205 - General Calculus	3	
Natural & Physical Sciences Requirement	4	**KSC 040**
Total Credits: 16		
Second Year		
Semester 1		
ECON 120 - Principles of Microeconomics	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
MKTG 250 - Introduction to Marketing	3	
STAT 225 - Introduction to Statistics **OR**	3	
STAT 250 - Business and Economic Statistics I	3	
GENBA 205 - Career Accelerator	0-1	
Social & Behavorial Sciences Requirement	3	**KSC 050**
Total Credits: 16		

Semester 2		
ACCTG 231 - Introduction to Managerial Accounting	3	
MANGT 421 - Introduction to Operations and Supply Chain Management	3	
MANGT 520 - Organizational Behavior	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Third Year		
Semester 1		
ACCTG 241 - Introduction to Financial Accounting	3	
MANGT 366 - Information Systems and Business Analytics	3	
MANGT 531 - Human Resources Management	3	
MANGT 623 - Compensation and Performance Management	3	
Unrestricted Elective	3	
Total Credits: 15		
Semester 2		
FINAN 450 - Principles of Finance	3	
MANGT 535 - Employment Law	3	
MANGT 643 - Organizational Staffing	3	
Human Resource Management Elective	3	
Social & Behavorial Sciences Requirement	3	**KSC 050**
Total Credits: 15		

Fourth Year		
Semester 1		
MANGT 523 - Human Resources Analytics	3	
MANGT 595 - Strategic Management	3	
Human Resource Management Elective	3	
Unrestricted Elective	3	
Total Credits: 12		
Semester 2		
ENGL 417 - Written Communication for the Workplace **OR**	3	
FINAN 451 - Introduction to Integrated Investment Management **OR**	3	
MANGT 230 - Business Law I **OR**	3	
ACCTG 445 - Financial Statement Analysis **OR**	3	
SALES 300 - Fundamentals of Professional Selling **OR**	3	
GENBA 145 - Business and Society	3	
MANGT 596 - Business Ethics and Corporate Citizenship	3	
Human Resource Management Elective	3	
Unrestricted Elective	3	
Unrestricted Elective	3	
Total Credits: 15		
Total Program Hours: 120		

Management - Organizational Management (BSBA) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset	3	
GENBA 105 - Business Orientation	0-1	
MATH 100 - College Algebra	3	**KSC 030**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Semester 2		
ECON 110 - Principles of Macroeconomics	3	**KSC 050**
MANGT 220 - Principles of Management	3	
MATH 205 - General Calculus	3	
COMM 106 - Public Speaking I	3	**KSC 020**
Natural & Physical Sciences Requirement	4	**KSC 040**
Total Credits: 16		
Second Year		
Semester 1		
ECON 120 - Principles of Microeconomics	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
GENBA 205 - Career Accelerator	0-1	
MKTG 250 - Introduction to Marketing	3	
STAT 225 - Introduction to Statistics **OR**	3	

STAT 250 - Business and Economic Statistics I	3		
Total Credits: 16			
Semester 2			
ACCTG 231 - Introduction to Managerial Accounting	3		
MANGT 421 - Introduction to Operations and Supply Chain Management	3		
MANGT 520 - Organizational Behavior	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Third Year			
Semester 1			
ACCTG 241 - Introduction to Financial Accounting	3		
MANGT 366 - Information Systems and Business Analytics	3		
MANGT 525 - Organizational Management and Data Analytics	3		
MANGT 531 - Human Resources Management	3		
Organizational Management Elective	3		
Total Credits: 15			
Semester 2			
FINAN 450 - Principles of Finance	3		
MANGT 553 - Business Project Management	3		
MANGT 590 - International Management	3		
Organizational Management Elective	3		

Unrestricted Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
MANGT 595 - Strategic Management	3		
Organizational Management Elective	3		
Social & Behavorial Sciences Requirement	3	**KSC 050**	
Unrestricted Elective	3		
Unrestricted Elective	3		
Total Credits: 15			
Semester 2			
ACCTG 445 - Financial Statement Analysis **OR**	3		
ENGL 417 - Written Communication for the Workplace **OR**	3		
FINAN 451 - Introduction to Integrated Investment Management **OR**	3		
MANGT 230 - Business Law I **OR**	3		
SALES 300 - Fundamentals of Professional Selling	3		
GENBA 145 - Business and Society	3		
MANGT 596 - Business Ethics and Corporate Citizenship	3		
Organizational Management Elective	3		
Unrestricted Elective	3		
Total Credits: 12			
Total Program Hours: 120			

Management - Strategic Management (BSBA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset	3	
GENBA 105 - Business Orientation	0-1	
MATH 100 - College Algebra	3	**KSC 030**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Semester 2		
ECON 110 - Principles of Macroeconomics	3	**KSC 050**
MANGT 220 - Principles of Management	3	
MATH 205 - General Calculus	3	
COMM 106 - Public Speaking I	3	**KSC 020**
Natural & Physical Sciences Requirement	4	**KSC 040**
Total Credits: 16		
Second Year		
Semester 1		
ECON 120 - Principles of Microeconomics	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
GENBA 205 - Career Accelerator	0-1	

MKTG 250 - Introduction to Marketing	3	
STAT 225 - Introduction to Statistics **OR**	3	
STAT 250 - Business and Economic Statistics I	3	
Total Credits: 16		
Semester 2		
ACCTG 231 - Introduction to Managerial Accounting	3	
MANGT 421 - Introduction to Operations and Supply Chain Management	3	
MANGT 520 - Organizational Behavior	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Third Year		
Semester 1		
ACCTG 241 - Introduction to Financial Accounting	3	
MANGT 366 - Information Systems and Business Analytics	3	
MANGT 525 - Organizational Management and Data Analytics	3	
MANGT 531 - Human Resources Management	3	
Organizational Management Elective	3	
Total Credits: 15		
Semester 2		
FINAN 450 - Principles of Finance	3	
MANGT 553 - Business Project Management	3	

MANGT 590 - International Management	3	
Organizational Management Elective	3	
Unrestricted Elective	3	
Total Credits: 15		
Fourth Year		
Semester 1		
MANGT 595 - Strategic Management	3	
Organizational Management Elective	3	
Social & Behavorial Sciences Requirement	3	**KSC 050**
Unrestricted Elective	3	
Unrestricted Elective	3	
Total Credits: 15		
Semester 2		
ACCTG 445 - Financial Statement Analysis **OR**	3	
ENGL 417 - Written Communication for the Workplace **OR**	3	
FINAN 451 - Introduction to Integrated Investment Management **OR**	3	
MANGT 230 - Business Law I **OR**	3	
SALES 300 - Fundamentals of Professional Selling	3	
GENBA 145 - Business and Society	3	
MANGT 596 - Business Ethics and Corporate Citizenship	3	
Organizational Management Elective	3	
Unrestricted Elective	3	
Total Credits: 12		

Total Program Hours: 120		

Management Information Systems (BSBA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset	3	
GENBA 105 - Business Orientation	0-1	
MATH 100 - College Algebra	3	**KSC 030**
Arts & Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
ECON 110 - Principles of Macroeconomics	3	
MATH 205 - General Calculus	3	
COMM 106 - Public Speaking I	3	**KSC 020**
MANGT 220 - Principles of Management	3	
Natural & Physical Sciences Requirement	4	**KSC 040**
Total Credits: 16		
Second Year		
Semester 1		

ECON 120 - Principles of Microeconomics	3	
GENBA 205 - Career Accelerator	0-1	
STAT 225 - Introduction to Statistics **OR**	3	
STAT 250 - Business and Economic Statistics I	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
MKTG 250 - Introduction to Marketing	3	
Social & Behavorial Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Semester 2		
ACCTG 231 - Introduction to Managerial Accounting	3	
MANGT 366 - Information Systems and Business Analytics **OR**	3	
MIS 366 - Introduction to Business Analytics and Information Systems	3	
MANGT 421 - Introduction to Operations and Supply Chain Management	3	
Arts & Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Third Year		
Semester 1		
MIS 411 - Business Programming Applications	3	
MIS 422 - Business Database and SQL	3	
ACCTG 241 - Introduction to Financial Accounting	3	
MANGT 520 - Organizational Behavior	3	
MIS Elective	3	

Total Credits: 15		
Semester 2		
MIS Elective	3	
FINAN 450 - Principles of Finance	3	
MIS 444 - Business Networks and Security	3	
Unrestricted Elective	3	
Social & Behavorial Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Fourth Year		
Semester 1		
MIS 555 - Cloud Computing with Business Programming Applications	3	
MIS 566 - Systems Analysis and Design	3	
MANGT 595 - Strategic Management	3	
Required Elective - Choose one course from the list below:		
ENGL 417 - Written Communication for the Workplace **OR**	3	
GENBA 145 - Business and Society **OR**	3	
MANGT 230 - Business Law I **OR**	3	
ACCTG 445 - Financial Statement Analysis **OR**	3	
FINAN 451 - Introduction to Integrated Investment Management **OR**	3	
SALES 300 - Fundamentals of Professional Selling	3	
Unrestricted Elective	3	
Total Credits: 15		

Semester 2		
MIS 665 - Business Analytics and Data Mining	3	
MIS 677 - Senior MIS Project	3	
MANGT 596 - Business Ethics and Corporate Citizenship	3	
Unrestricted Elective	3	
Total Credits: 12		
Total Program Hours: 120		

Operations and Supply Chain Management (BSBA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset	3	
MATH 100 - College Algebra	3	**KSC 030**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Arts & Humanities Requirement	3	**KSC 060**
GENBA 105 - Business Orientation	0-1	
Total Credits: 16		
Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
ECON 110 - Principles of Macroeconomics	3	**KSC 050**
MANGT 220 - Principles of Management	3	

MATH 205 - General Calculus	3	
Natural & Physical Sciences Requirement (with lab)	4	**KSC 040**
Total Credits: 16		
Second Year		
Semester 1		
ECON 120 - Principles of Microeconomics	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
MKTG 250 - Introduction to Marketing	3	
STAT 225 - Introduction to Statistics **OR**	3	
STAT 250 - Business and Economic Statistics I	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
GENBA 205 - Career Accelerator	0-1	
Total Credits: 15		
Semester 2		
ACCTG 231 - Introduction to Managerial Accounting	3	
MANGT 421 - Introduction to Operations and Supply Chain Management	3	
MANGT 520 - Organizational Behavior	3	
Arts & Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Third Year		
Semester 1		

ACCTG 241 - Introduction to Financial Accounting	3		
MANGT 366 - Information Systems and Business Analytics	3		
MANGT 553 - Business Project Management	3		
MANGT 660 - Supply Chain Planning and Control	3		
Free Elective	3		
Total Credits: 15			
Semester 2			
FINAN 450 - Principles of Finance	3		
MANGT 521 - Managerial Decision Analytics	3		
MANGT 561 - Transportation and Warehouse Management	3		
OSCM Elective	3		
Unrestricted Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
MANGT 662 - Procurement, Logistics and Supply Chain Design	3		
MANGT 595 - Strategic Management	3		
OSCM Elective	3		
Unrestricted Elective	3		
OSCM Elective	3		
Total Credits: 15			
Semester 2			

Required Elective - choose one 3 hour course from list below:			
ENGL 417 - Written Communication for the Workplace **OR**	3		
GENBA 145 - Business and Society **OR**	3		
SALES 300 - Fundamentals of Professional Selling **OR**	3		
MANGT 230 - Business Law I **OR**	3		
ACCTG 445 - Financial Statement Analysis **OR**	3		
FINAN 451 - Introduction to Integrated Investment Management	3		
MANGT 596 - Business Ethics and Corporate Citizenship	3		
OSCM Elective	3		
Elective Unrestricted Elective	3		
Total Credits: 12			
Total Program Hours: 120			

Marketing

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Web page

Marketing is a dynamic, ever-evolving field that opens doors to incredible opportunities. It's all about creating value—developing innovative products, setting competitive prices, crafting compelling promotions, and ensuring smart distribution to meet customer needs.

Our Marketing curriculum gives you the flexibility to focus on areas that spark your interest, whether it's sales, research, analytics, or strategic marketing. As a marketing major, you will gain the insights needed to spot opportunities, build impactful strategies, and bring them to life in the real world.

Through courses, internships, study abroad experiences, and independent studies, you will be immersed in real-world marketing challenges, preparing you to become a confident and successful marketing professional.

Want to dive even deeper? Our certificate programs allow specialization in areas that match your passions:

- ✅ Business of Sports & Entertainment
- ✅ Professional Strategic Selling
- ✅ Marketing Technology

Bachelor of Science in Business Administration

Marketing (BSBA)

Marketing is a broad, dynamic field with many interesting opportunities for students. The Marketing curriculum gives students the ability to study an area of emphasis within the field, including marketing management, marketing analytics and sales. Study in Marketing covers such areas as consumer behavior, marketing channels, international marketing, retailing, services marketing, business marketing, sports marketing, digital marketing, and marketing strategy. All areas of study provide individuals with excellent opportunities for rapid advancement in professional marketing positions. Dual degree and dual major programs combining marketing with other fields may be arranged by consulting the Department of Marketing.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: 44 credit hours

The curriculum for this major assumes students enter college prepared to take Calculus.

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
ECON 110 - Principles of Macroeconomics **Credits:** 3
ECON 111 - Principles of Macroeconomics - Honors **Credits:** 3
FINAN 450 - Principles of Finance **Credits:** 3
FINAN 451 - Introduction to Integrated Investment Management **Credits:** 3
GENBA 105 - Business Orientation **Credits:** 0-1
GENBA 205 - Career Accelerator **Credits:** 0-1
MANGT 220 - Principles of Management **Credits:** 3
MANGT 366 - Information Systems and Business Analytics **Credits:** 3
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
MANGT 595 - Strategic Management **Credits:** 3
MANGT 596 - Business Ethics and Corporate Citizenship **Credits:** 3
MATH 205 - General Calculus **Credits:** 3
MKTG 250 - Introduction to Marketing **Credits:** 3
STAT 225 - Introduction to Statistics **Credits:** 3

OR

STAT 250 - Business and Economic Statistics I **Credits:** 3

Major Courses: 42 credit hours

Degree Requirements: 15 credit hours

MKTG 450 - Consumer Behavior **Credits:** 3
SALES 300 - Fundamentals of Professional Selling **Credits:** 3
MKTG 300 - Introduction to Digital Marketing **Credits:** 3
MKTG 480 - Marketing Analytics Fundamentals **Credits:** 3
MKTG 690 - Marketing Strategy **Credits:** 3
OR
STAT 351 - Business and Economic Statistics II **Credits:** 3

Major Field Electives: 15 credit hours

Choose 5 courses from list below:

MKTG 302 - Brand Marketing **Credits:** 3
MKTG 306 - Business to Business Marketing **Credits:** 3
MKTG 311 - Services Marketing **Credits:** 3
MKTG 325 - International Marketing **Credits:** 3
MKTG 326 - International Business **Credits:** 3
MKTG 440 - Entertainment Marketing **Credits:** 3
MKTG 490 - Undergraduate Research Experience **Credits:** 0-3
MKTG 495 - Marketing Internship **Credits:** 0-3
MKTG 496 - Special Topics in Marketing **Credits:** 3
MKTG 498 - Independent Study in Marketing **Credits:** 0-18
MKTG 540 - Digital Content Strategy and Development **Credits:** 3
MKTG 551 - Data Narratives and Visualization **Credits:** 3
MKTG 630 - Sports Marketing **Credits:** 3
MKTG 650 - Digital Marketing Analysis and Strategy **Credits:** 3
MKTG 653 - Applications of Marketing Analytics **Credits:** 3
MKTG 654 - Marketing Research **Credits:** 3

Economics Elective: 3 credit hours

Please choose one course (3 hours) from the list of economic courses below:

ECON 510 - Intermediate Macroeconomics **Credits:** 3
ECON 520 - Intermediate Microeconomics **Credits:** 3
ECON 523 - Human Resource Economics **Credits:** 3
ECON 524 - Sports Economics **Credits:** 3
ECON 540 - Managerial Economics **Credits:** 3

Unrestricted Electives: 6 credit hours

Any course numbered 100-level or above offered for credit by a university department. Students are strongly encouraged to use their unrestricted electives to complete for-credit experiential learning opportunities, such as internships, community service/engagement, and study abroad.

Required Course: 3 credit hours

Choose one course from list below:

ENGL 417 - Written Communication for the Workplace **Credits:** 3
GENBA 145 - Business and Society **Credits:** 3
ACCTG 445 - Financial Statement Analysis **Credits:** 3
FINAN 451 - Introduction to Integrated Investment Management **Credits:** 3
MANGT 230 - Business Law I **Credits:** 3

Total Hours Required for Graduation: 120

Professional Strategic Selling (BSBA)

The major in Professional Strategic Selling will build upon the existing sales coursework in Marketing. The establishment of a major in professional strategic selling would:

Provide a full range of coursework aimed at developing students selling skills;
Provide an avenue for students who are seeking a sales career to more fully prepare for the realities of the sales role.
Allow KSU to compete for the growing number of students who desire the opportunity to study the professional strategic selling within the context of business.
Continue to develop strong connections with businesses locally as well as nationally; a sales major will influence the desire of businesses to recruit for entry level sales positions at K-State;
Meet the business community's ever-growing demand for well-prepared sales talent.

The Major in Professional Strategic Selling will focus on the business skills needed to be successful in a sales career. Moreover, this major will open numerous opportunities for our students; recent reports note that demand for well-qualified sales talent is high, and yet the availability of such talent is limited, largely because few universities offer programs in sales education.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: 44 credit hours

The curriculum for this major assumes students enter college prepared to take Calculus.

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3

ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
ECON 110 - Principles of Macroeconomics **Credits:** 3
ECON 120 - Principles of Microeconomics **Credits:** 3
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset **Credits:** 3
FINAN 450 - Principles of Finance **Credits:** 3
GENBA 105 - Business Orientation **Credits:** 0-1
GENBA 205 - Career Accelerator **Credits:** 0-1
MANGT 220 - Principles of Management **Credits:** 3
MANGT 366 - Information Systems and Business Analytics **Credits:** 3
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
MANGT 595 - Strategic Management **Credits:** 3
MANGT 596 - Business Ethics and Corporate Citizenship **Credits:** 3
MATH 205 - General Calculus **Credits:** 3
MKTG 250 - Introduction to Marketing **Credits:** 3
STAT 225 - Introduction to Statistics **Credits:** 3
OR
STAT 250 - Business and Economic Statistics I **Credits:** 3

Major Field Requirements: 42 credit hours

Degree Requirements: 21 credit hours

SALES 300 - Fundamentals of Professional Selling **Credits:** 3
SALES 450 - Sales Technology **Credits:** 3
SALES 451 - Sales Force Leadership **Credits:** 3
SALES 452 - Customer Relationship Management **Credits:** 3
SALES 453 - Advanced Selling **Credits:** 3
SALES 454 - Sales Practicum **Credits:** 3
MKTG 480 - Marketing Analytics Fundamentals **Credits:** 3
OR
STAT 351 - Business and Economic Statistics II **Credits:** 3

Major Electives: 9 credit hours

Select three courses from list below:

SALES 496 - Special Topics in Sales **Credits:** 3
SALES 498 - Independent Study in Sales **Credits:** 0-3
SALES 455 - Sales Negotiation **Credits:** 3
SALES 456 - Key Account Management **Credits:** 3
SALES 457 - Cooperation Selling **Credits:** 3

Economic Elective: 3 credit hours

Please choose one course (3 credit hours) from the list below.

ECON 510 - Intermediate Macroeconomics **Credits:** 3
ECON 520 - Intermediate Microeconomics **Credits:** 3

ECON 523 - Human Resource Economics **Credits:** 3
ECON 524 - Sports Economics **Credits:** 3
ECON 540 - Managerial Economics **Credits:** 3

Required Elective: 3 credit hours

Pick one course from list below:

ENGL 417 - Written Communication for the Workplace **Credits:** 3
GENBA 145 - Business and Society **Credits:** 3
ACCTG 445 - Financial Statement Analysis **Credits:** 3
FINAN 451 - Introduction to Integrated Investment Management **Credits:** 3
MANGT 230 - Business Law I **Credits:** 3

Unrestricted Electives: 6 credit hours

Any course numbered 100-level or above offered for credit by a university department. Students are strongly encouraged to use their unrestricted electives to complete for-credit experiential learning opportunities, such as internships, community service/engagement, and study abroad.

Total Hours Required for Graduation: 120

Minor

Marketing Minor

The marketing minor is targed toward non-marketing majors. Students in many other disciplines would be able to acquire necessary marketing skills needed in business.

Program requirements

The Marketing Minor consists of 15 credit hours. Marketing majors are not allowed to complete the marketing minor.

At least three of the five courses must be completed at Kansas State University. Prior permission is required from the College of Business to take a class at another institution. Prerequisites and requisites associated with the marketing courses must be followed. The minor will be awarded upon or after being awarded a baccalaureate degree and students must earn a minimum 2.50 KSU cumulative GPA across all five courses to graduate with the minor.

Will consist of two core courses and three elective courses. Students will take MKTG 400 Introduction to Marketing as the prerequisite course for the other courses. Students should take the core in the order given below, but it is not required. Electives can be taken at any time.

Non-Business Majors: 15 credit hours

MKTG 400 - Introduction to Marketing **Credits:** (3)

A general study of marketing principles which lead to the development of marketing strategy. A review of environmental influences and key analytical tools used in formulating marketing plans. Product or service design, distribution, pricing, and promotional programs.

MKTG 450 - Consumer Behavior**. Credits:** (3)

Consumer behavior is the study of the cognitive, affective, and behavioral factors that interact with social, cultural, and situational influences to guide decision making in the marketplace. The goals are to provide a conceptual understanding of consumer behavior, experience in applying consumer behavior concepts to marketing strategy, and knowledge of consumer research applications

Marketing Electives: 9 credit hours

Non-Business Majors. Choose 3 courses from the list below: 9 credit hours:

MKTG 300 - Introduction to Digital Marketing **Credits:** 3
MKTG 302 - Brand Marketing **Credits:** 3
MKTG 305 - Socially Responsible Marketing **Credits:** 3
MKTG 306 - Business to Business Marketing **Credits:** 3
MKTG 311 - Services Marketing **Credits:** 3
MKTG 326 - International Business **Credits:** 3
MKTG 325 - International Marketing **Credits:** 3
MKTG 440 - Entertainment Marketing **Credits:** 3
MKTG 450 - Consumer Behavior **Credits:** 3
MKTG 480 - Marketing Analytics Fundamentals **Credits:** 3
MKTG 496 - Special Topics in Marketing **Credits:** 3
MKTG 540 - Digital Content Strategy and Development **Credits:** 3
MKTG 551 - Data Narratives and Visualization **Credits:** 3
MKTG 630 - Sports Marketing **Credits:** 3
MKTG 650 - Digital Marketing Analysis and Strategy **Credits:** 3
MKTG 653 - Applications of Marketing Analytics **Credits:** 3
SALES 300 - Fundamentals of Professional Selling **Credits:** 3

Business (Non-Marketing) Majors: 15 credit hours

MKTG 450 - Consumer Behavior **Credits:** 3

Marketing Electives: 12 credit hours

Business Non-Marketing Majors. Choose 4 courses from the list below: 12 credit hours

MKTG 300 - Introduction to Digital Marketing **Credits:** 3
MKTG 302 - Brand Marketing **Credits:** 3
MKTG 305 - Socially Responsible Marketing **Credits:** 3
MKTG 306 - Business to Business Marketing **Credits:** 3
MKTG 311 - Services Marketing **Credits:** 3
MKTG 325 - International Marketing **Credits:** 3
MKTG 326 - International Business **Credits:** 3
MKTG 440 - Entertainment Marketing **Credits:** 3
MKTG 450 - Consumer Behavior **Credits:** 3
MKTG 480 - Marketing Analytics Fundamentals **Credits:** 3

MKTG 496 - Special Topics in Marketing **Credits:** 3
MKTG 540 - Digital Content Strategy and Development **Credits:** 3
MKTG 551 - Data Narratives and Visualization **Credits:** 3
MKTG 630 - Sports Marketing **Credits:** 3
MKTG 650 - Digital Marketing Analysis and Strategy **Credits:** 3
MKTG 653 - Applications of Marketing Analytics **Credits:** 3
SALES 300 - Fundamentals of Professional Selling **Credits:** 3

Other Requirements

Students must earn at least a 2.5 GPA in all courses taken to fulfill the requirements of the Minor program.
Issued by the K-State College of Business Administration, the student's transcript will note the minor.

Total Hours Required for Minor: 15

Undergraduate Certificate

Business of Sports and Entertainment Undergraduate Certificate

The Business of Sports and Entertainment Certificate is designed to develop insights and opportunities in a rapidly growing industry for K-State students. The purpose of the Business of Sports and Entertainment Certificate is three-fold. First, it provides an opportunity for students interested in a career in sports or entertainment to augment the perceived value of their major and distinguish themselves on the job market. Second, it provides a deep understanding of the role of sports and entertainment in business, enhanced by hands-on, real-time experiential learning opportunities. Third, it provides an appealing context that both draws students and motivates learning in the essential areas of marketing, economics, and management, in a way that is transferrable to virtually any type of business.

Admission Requirements

Certificate can be completed by degree seeking students at Kansas State University or obtained as a credential on its own (free-standing). Students who do not intend to become a candidate for a bachelor's degree at Kansas State University must apply for admission as a non-degree, certificate-seeking student. Such students must submit the admission application, application fee, and transcripts. Applicants must provide documentation of high school or GED completion and, if college courses have been attempted, official transcripts demonstrating a cumulative GPA of 2.0 or higher for all post-secondary coursework. Students who later choose to pursue a bachelor's degree must apply for admission as a degree-seeking student.

Graduation Requirements

Students must earn at least a 2.5 GPA in all courses taken to fulfill the requirements of the certificate program.
Issued by the K-State College of Business Administration, the student's transcript will note the certification.

Required Courses (6 credit hours)

MKTG 630 - Sports Marketing **Credits:** 3
ECON 524 - Sports Economics **Credits:** 3

Elective Courses (9 credit hours)

Choose three of the following:

HM 463 - Business Event Coordination **Credits:** 3
MANGT 630 - Sports Management **Credits:** 3
MC 478 - Entertainment and Strategic Communications **Credits:** 3
or
MC 479 - Strategic Communications and Sports **Credits:** 3
MKTG 495 - Marketing Internship **Credits:** 0-3
MKTG 440 - Entertainment Marketing **Credits:** 3
SALES 300 - Fundamentals of Professional Selling **Credits:** 3

Total hours required: 15

Marketing Technology Undergraduate Certificate

This certificate program teaches students strategic digital marketing communication and analytics, with a focus on comprehensive marketing strategies. Students learn how to use these strategies in real business situations, improving their practical skills.

The program also covers ways to present complex data through storytelling and visual aids. This helps students develop skills in combining, explaining, and professionally showcasing data-driven narratives.

Additionally, students gain an understanding of important digital marketing metrics and how they connect to an organization's strategic goals. They learn to evaluate these metrics across different platforms, which is crucial in today's diverse digital landscape.

By the end of the program, students can effectively assess marketing activities in relation to business objectives. This knowledge allows them to create and implement successful marketing strategies in the digital world.

Students upon completion of the certificate are able to

- Prepare strategic communications for digital marketing, including structure and development
- Communicate complex datasets in a storytelling format and utilize industry-recommended visualization techniques
- Analyze digital marketing metrics and relate them to strategic objectives of an organization
- Earn industry certifications

Required Courses: 9 credit hours

MKTG 540 - Digital Content Strategy and Development **Credits:** 3
MKTG 551 - Data Narratives and Visualization **Credits:** 3
MKTG 650 - Digital Marketing Analysis and Strategy **Credits:** 3

Electives: 6 credit hours

ACCTG 413 - Accounting Information Systems **Credits:** 3
ARE 310 - Introduction to AutoCAD **Credits:** 1
CIS 200 - Programming Fundamentals **Credits:** 4
DEN 301 - Creative Problem Solving in Engineering **Credits:** 1

DIGME 406 - Social Media **Credits:** 3
ECE 241 - Introduction to Electrical and Computer Engineering **Credits:** 3
ENTRP 466 - Digital Business **Credits:** 3
IMSE 441 - Introduction to Analytics **Credits:** 3
MC 370 - Social Media Strategy & Management **Credits:** 3
MC 374 - Social Media Content Development **Credits:** 3
MC 445 - Digital Brand Strategy **Credits:** 3
ME 212 - Engineering Graphics **Credits:** 2
ME 400 - Computer Applications in Mechanical Engineering **Credits:** 3
MIS 366 - Introduction to Business Analytics and Information Systems **Credits:** 3
MIS 665 - Business Analytics and Data Mining **Credits:** 3
MKTG 480 - Marketing Analytics Fundamentals **Credits:** 3
MKTG 653 - Applications of Marketing Analytics **Credits:** 3
SALES 450 - Sales Technology **Credits:** 3
SALES 452 - Customer Relationship Management **Credits:** 3

Total hours required: 15

Professional Strategic Selling Undergraduate Certificate

The Professional Strategic Selling Certificate is designed to prepare students for a career in sales. The program exposes students to the fundamentals of sales and through innovative curriculum and sales labs, allows them to develop the skills needed to be successful. The certificate is open to all majors within the university.

The certificate consists of 15 credit hours, one current core course in Business Administration and four courses related to sales. Entry into the PSS Certificate program is competitive. Students must apply and be accepted to the program via a behaviorally-based interview process conducted by faculty and corporate partners.

Students must earn a minimum 2.50 grade point average on courses taken to fulfill the requirements of the certificate.

No more than 25% of total credit hours required for the certificate may be transfer credits. Students must earn at least 75% of credits that apply to the certificate from Kansas State University OR an approved university affiliate of Kansas State University in a foreign country.

The certificate can be completed by degree seeking students at Kansas State University or obtained as a credential on its own (free-standing). Students who do not intend to become a candidate for a bachelor's degree at Kansas State University must apply for admission as a non-degree, certificate-seeking student. Such students must submit the admission application, application fee, and transcripts. Applicants must provide documentation of high school or GED completion and, if college courses have been attempted, official transcripts demonstrating a cumulative GPA of 2.5 or higher for all post-secondary coursework. Students who later choose to pursue a bachelor's degree must apply for admission as a degree-seeking student.

Required Courses: (12 Credit Hours)

MKTG 250 - Introduction to Marketing **Credits:** 3
SALES 300 - Fundamentals of Professional Selling **Credits:** 3
SALES 450 - Sales Technology **Credits:** 3
SALES 451 - Sales Force Leadership **Credits:** 3

Elective Course: (3 Credit Hours)

Choose 1 of the following courses:

CE 585 - Civil Engineering Project **Credits:** 3
CNRES 531 - Interpersonal Conflict Resolution **Credits:** 3
COMM 526 - Persuasion **Credits:** 3
ENGL 415 - Written Communication for Engineers **Credits:** 3
FASH 375 - Digital Fashion Communications **Credits:** 3
FNDH 515 - Counseling Strategies in Dietetic Practice **Credits:** 3
FNDH 575 - Research in Health Sciences **Credits:** 1
HM 424 - Hospitality Sales and Promotion **Credits:** 3
MANGT 662 - Procurement, Logistics and Supply Chain Design **Credits:** 3
MC 581 - Campaigns in Advertising and Public Relations **Credits:** 3
PFP 456 - Financial Counseling and Communication **Credits:** 3
SALES 496 - Special Topics in Sales **Credits:** 3
SALES 498 - Independent Study in Sales **Credits:** 0-3
SALES 454 - Sales Practicum **Credits:** 3
SALES 455 - Sales Negotiation **Credits:** 3
SALES 456 - Key Account Management **Credits:** 3
SALES 457 - Cooperation Selling **Credits:** 3
SALES 453 - Advanced Selling **Credits:** 3

Total hours required: 15

Other Program Choices

Marketing (BSBA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset	3	
GENBA 105 - Business Orientation	0-1	
MATH 100 - College Algebra	3	**KSC 030**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		

Semester 2		
ECON 110 - Principles of Macroeconomics	3	
MANGT 220 - Principles of Management	3	
MATH 205 - General Calculus	3	
COMM 106 - COMM 106	3	**KSC 020**
Natural & Physical Sciences Requirement	4	**KSC 040**
Total Credits: 16		
Second Year		
Semester 1		
ECON 120 - Principles of Microeconomics	3	
MKTG 250 - Introduction to Marketing	3	
STAT 225 - Introduction to Statistics **OR**	3	
STAT 250 - Business and Economic Statistics I	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
GENBA 205 - Career Accelerator	0-1	
Social & Behavorial Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Semester 2		
SALES 300 - Fundamentals of Professional Selling	3	
ACCTG 231 - Introduction to Managerial Accounting	3	
Marketing Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Arts & Humanities Requirement	3	**KSC 060**

Total Credits: 15		
Third Year		
Semester 1		
ACCTG 241 - Introduction to Financial Accounting	3	
MANGT 366 - Information Systems and Business Analytics	3	
MKTG 450 - Consumer Behavior	3	
Marketing Elective	3	
Unrestricted Elective	3	
Total Credits: 15		
Semester 2		
FINAN 450 - Principles of Finance	3	
MANGT 421 - Introduction to Operations and Supply Chain Management	3	
MKTG 300 - Introduction to Digital Marketing	3	
Marketing Elective	3	
Social & Behavorial Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Fourth Year		
Semester 1		
ECON 510 - Intermediate Macroeconomics **OR**	3	
ECON 520 - Intermediate Microeconomics	3	
MANGT 595 - Strategic Management	3	
MKTG 690 - Marketing Strategy	3	

Marketing Elective	3	
Unrestricted Elective	3	
Total Credits: 15		
Semester 2		
ACCTG 445 - Financial Statement Analysis **OR**	3	
ENGL 417 - Written Communication for the Workplace **OR**	3	
FINAN 451 - Introduction to Integrated Investment Management **OR**	3	
GENBA 145 - Business and Society **OR**	3	
MANGT 230 - Business Law I	3	
MANGT 596 - Business Ethics and Corporate Citizenship	3	
Unrestricted Elective	3	
Marketing Elective	3	
Total Credits: 12		
Total Program Hours: 120		

Professional Strategic Selling (BSBA) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
GENBA 105 - Business Orientation	0-1	
MATH 100 - College Algebra	3	**KSC 030**
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset	3	

Social & Behavorial Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
ECON 110 - Principles of Macroeconomics	3	
MANGT 220 - Principles of Management	3	
MATH 205 - General Calculus	3	
Natural & Physical Sciences Requirement	4	**KSC 040**
Total Credits: 16		
Second Year		
Semester 1		
ECON 120 - Principles of Microeconomics	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
GENBA 205 - Career Accelerator	0-1	
MKTG 250 - Introduction to Marketing	3	
SALES 300 - Fundamentals of Professional Selling	3	
Social & Behavorial Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Semester 2		
ACCTG 231 - Introduction to Managerial Accounting	3	
SALES 450 - Sales Technology	3	

STAT 225 - Introduction to Statistics **OR**	3	
STAT 250 - Business and Economic Statistics I	3	
SALES Elective	3	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Third Year		
Semester 1		
MKTG 480 - Marketing Analytics Fundamentals	3	
ACCTG 241 - Introduction to Financial Accounting	3	
SALES 451 - Sales Force Leadership	3	
SALES Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
FINAN 450 - Principles of Finance	3	
MANGT 366 - Information Systems and Business Analytics	3	
MANGT 421 - Introduction to Operations and Supply Chain Management	3	
SALES 453 - Advanced Selling	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 3		
SALES 454 - Sales Practicum	3	

Total Credits: 3		
Fourth Year		
Semester 1		
ECON 510 - Intermediate Macroeconomics **OR**	3	
ECON 520 - Intermediate Microeconomics	3	
MANGT 595 - Strategic Management	3	
SALES Elective	3	
Unrestricted Elective	3	
Total Credits: 12		
Semester 2		
ACCTG 445 - Financial Statement Analysis **OR**	3	
ENGL 417 - Written Communication for the Workplace **OR**	3	
FINAN 451 - Introduction to Integrated Investment Management **OR**	3	
GENBA 145 - Business and Society **OR**	3	
MANGT 230 - Business Law I	3	
SALES 452 - Customer Relationship Management	3	
MANGT 596 - Business Ethics and Corporate Citizenship	3	
Unrestricted Elective	3	
Total Credits: 12		
Total Program Hours: 120		

College of Education

Debbie K. Mercer, Dean
Cindy Shuman, Associate Dean for Research and External Funding
F. Todd Goodson, Associate Dean for Teacher Education and Accreditation
Roger W. Schieferecke, Assistant Dean, Director of the Center for Student Success and Professional Services

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College of Education programs prepare individuals for the broad spectrum of professional education positions.

Primary consideration is given to preparing education students for the various positions in elementary, secondary, career, and technical programs and the personnel who support these programs. In addition, the college provides consultative services and in-service training to improve various aspects of education programs at all levels. The College of Education cooperates with all other colleges and departments in its interdisciplinary approach to preparing teachers and other educational personnel.

The university is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools (NCA), and the teacher education programs are accredited by the Kansas State Department of Education (KSDE) and the Council for the Accreditation of Educator Preparation (CAEP).

The college offers a bachelor's degree in education with an emphasis in elementary or secondary education and supports education programs outside the College of Education in agriculture, early childhood, family and consumer sciences, and music education. This degree leads to recommendations for teacher licensure in Kansas.

The college offers a bachelor's degree in educational studies, preparing successful candidates to participate in shaping and making educational policy, working with youth in non-school settings, preparing for international teaching, or participating in the entrepreneurial realm.

The professional education unit at Kansas State University is committed to preparing educators to be knowledgeable, ethical, caring decision-makers for a diverse and changing world through:

delivery of exemplary instruction to students at the undergraduate and graduate levels;
production, interpretation, and dissemination of sound and useful research and scholarship;
leadership, collaboration, and service within the profession; and
promotion, understanding, and celebration of diversity.

Advising

All students admitted to the College of Education are assigned an advisor from the Center for Student Success and Professional Services (114 Bluemont Hall).

EDCATS Central

EDCATS Central, a Canvas page for College of Education students, serves as a clearinghouse for all program documentation forms.

Teacher Education

The College of Education is the designated unit responsible for all K-State educator licensure.

The programs are designed to develop competencies essential for teaching and to meet Kansas State Department of Education standards. Some programs are parts of degree requirements in colleges other than the College of Education. All College of Education program requirements are subject to revision as necessary to meet Kansas licensure standards. Students should contact their advisors or the licensing officer if they have questions about licensure program changes.

Licensure through the teacher education program is available for four teaching levels: (a) early childhood unified birth through kindergarten, (b) elementary education prepares for grades P–6, (c) secondary programs satisfy state licensure requirements for grades 6–12, and (d) P-12 in art, music, modern languages, and physical education/health.

Professionalism Hours

These hours are required during the duration of the time in the program.

> By November 1st or April 1st of the semester before student teaching, documentation must be submitted concerning completing 20 hours of professional growth enrichment and 20 hours of educational service to youth and families.

Admission Requirements for Teacher Education

The application for admission to a teacher education program may be submitted when the applicant has satisfied all of the admission requirements. Transfer students who have satisfied all the admission requirements should apply at the time of initial enrollment. Students making changes in degree programs within teacher education must reapply for teacher education.

Hours

Requires 42 hours completed, including all transfer and K-State credit hours.

English Composition

Both Expository Writing I and II must be completed satisfactorily with a grade no lower than C (2.000).

Public Speaking

A grade of C or better is required in COMM 106, COMM 109, or COMM 322 Interpersonal Communications.

Quantitative Sciences

A grade of C or better is required in three credit hours of mathematics MATH 160 or a math as required by the KBOR Math Pathways.

Education Courses

EDCI 110 Foundations of Education and EDCI 200 Teaching as a Career (or ECED 210 Intro/Early Child Ed and ECED 313 Pre-Prof Exps ECE for Early Childhood) with a C or higher.

Overall Degree Program GPA

A 2.75 GPA is required in all attempted courses that meet degree program requirements, including all graded transfer and K-State credits. Probationary admission may be granted if the student has a 2.6 GPA and all other requirements are met. GPA must be 2.75 before the Professional semester.

Teaching Field GPA

A 2.750 GPA is required in all attempted courses that meet degree program requirements, including all graded transfer and K-State credit hours. Probationary admissions may be granted if the student has a 2.600 GPA and all other requirements are met. GPA must be 2.750 before the Professional semester(s).

Early Field Experience

Early field experience is completed in EDCI 230 or documentation of 30-40 hours of observation.

Application Deadlines

To enroll early in summer or fall professional classes, apply by February 15.
To enroll early in spring professional classes, apply by October 1.
When the applications are approved, students are notified of their acceptance into the respective teacher education professional program. Students who do not meet the requirements will be notified of available options.

Criminal Background Check

All students requesting practicum and internship placements complete a background check through an external provider.

The Professional Semester

The professional semester involves the equivalent of a full semester of student teaching. For residential students, this semester occurs in the fall or spring of the senior year. For online elementary education students, the professional semester occurs across both fall and spring semesters. There is no student teaching offered during summer sessions. Because of the school districts' schedules, students may be required to begin their student teaching before the start of K-State's semester schedule and/or end their student teaching after K-State's semester schedule ends.

Students desiring to be recommended for licensure by K-State must earn credit for student teaching. Students may only take the courses prescribed for the professional semester unless permission is obtained through the Office of Field Experience. Teaching participation is graded Credit/No Credit.

Admission to the Professional Semester

Students will be approved for the professional semester when the requirements below are met.

Requirements for all applicants to the professional semester

Full admittance to a teacher education program.
Completion of 90 semester hours.
An overall grade point average of 2.750 in all college or university coursework that meets degree program requirements.
Completion of all Professional and Teacher Education courses and practica with a 3.000 GPA with no grade lower than C.
Student may retake blocked methods courses once only.
Demonstrate the standards and dispositions defined in our Conceptual Framework.
Core Teaching Skills, and Methods courses must be taken at K-State.
Verification of a negative tuberculosis (TB) test.
Criminal Background check through an external provider.
Professional Liability Insurance.
Completion of the Professionalism requirement by November 1 or April 1 of final student teaching semester.
Verification of Red Cross first aid training (or an approved equivalent) and CPR certification (or an approved equivalent).

Additional requirements for secondary majors

A grade point average of 2.750 is required in all teaching fields based on all teaching field courses attempted at K-State and all colleges or universities attended.

Student teaching assignment request

Student teaching requires a special application called the Student Teaching Assignment Request (STAR form).

Professional Licensure

Initial Licensure

The College of Education serve as the recommending agent for all K-State graduates who wish to apply for Kansas licensure. Early childhood, elementary, and secondary teaching licensure may be accomplished through the completion of the approved program and the appropriate degree. Additional testing is required by the Kansas State Department of Education.

Students must meet the requirements for licensure in all areas requested at the time they apply for that licensure or endorsement.

The State of Kansas will issue initial teaching licenses only to individuals who have completed an approved teacher education program, received the recommendation of their college or university, and successfully passed the approved Praxis content assessments. Applicants are also required to pass a KSDE background check. Legal questions should be addressed to TLALicense@ksde.gov.

Anyone applying for initial licensure in a state other than Kansas is recommended to also apply for Kansas licensure. For additional information, these individuals should contact edcatslicensing@ksu.edu, 114 Bluemont Hall.

Approved programs

All students preparing to be licensed to teach in preschool, elementary, or secondary schools must fully complete the approved teacher education program regardless of which college awards the degree. The approved program consists of general education studies, a major or specialization, and professional education studies.

The elementary and secondary education curricula fulfill program requirements for recommendation for teacher licensure in the State of Kansas. Both degrees offered through the College of Education are four-year programs.

Elementary Education (B.S. in Education) [Inactive]
Secondary Education (B.S. in Education) [Inactive]

Non-licensure program:

Educational Studies (B.S. in Educational Studies) [Inactive]

Certificates:

K-12 Online Undergraduate Teaching and Learning
Sports Performance Coaching
Rual Education
Urban Education

Education Programs Outside the College of Education:

The curricula in agricultural education, family and consumer sciences education, early childhood education, and music education fulfill program requirements for recommendation for teacher licensure in the state of Kansas.

Display courses for College of Education.

Curriculum and Instruction

F. Todd Goodson, Chair

261 Bluemont Hall
785-532-5550
Fax: 785-532-7304
E-mail: edci@k-state.edu
http://coe.k-state.edu/edci/

This department offers a four-year program leading to recommendation for Kansas licensure in the elementary school. The studies for the bachelor's degree include three areas: general education, professional education, and an area of concentration.

This department offers a four-year degree program leading to recommendation for Kansas licensure as a secondary school teacher in one or more of the following fields: art, biology, business, chemistry, earth and space science, English, journalism, mathematics, modern languages, physical education/health, physics, speech, and social science. In addition, the department provides teaching methods courses, field experiences, and secondary education student teaching experiences to serve students in music education. The department also provides similar courses for students in agricultural education, and family and consumer sciences education.

The bachelor's degree in educational studies prepares candidates to participate in shaping and making educational policy, work with youth in non-school settings, prepare for international teaching, or participate in the entrepreneurial realm.

Bachelor of Science

Art Education (BS)

Leads to a Kansas Teaching License in PK-12 in Art.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (37 credit hours)

A grade of C or higher is required in all Teacher Education courses and practica. A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

Pre-Professional Component: (5 credit hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1

Professional Education Component: (32 credit hours)

Admission to teacher education required.

Non-Blocked courses: (1 credit hour)

EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
(Must be completed before Block II.)

Block 1: (8 credit hours)

Courses must be taken concurrently and prior to Block II.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II: (9 credit hours)

Courses must be taken concurently and prior to Student Teaching.

EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1
EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 530 - Art Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 531 - Art Methods Practicum **Credits:** 2

Professional Semester (Internship): (12 credit hours)

A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12
EDEL 585 - Teaching Internship in Elementary School **Credits:** 1-15

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Licensure Requirement: (49 credit hours)

ART 180 - AandD: Color, Light, and Perception Lab **Credits:** 3
ART 190 - Drawing I **Credits:** 3
ART 195 - Survey of Western Art History I **Credits:** 3
ART 196 - Survey of Western Art History II **Credits:** 3
ART 200 - AandD: Visual Representation and Fabrication **Credits:** 3
ART 311 - Drawing: Expanded Media **Credits:** 3
ART 320 - Water Media **Credits:** 3
ART 335 - Introduction to Printmaking Techniques **Credits:** 3
ART 340 - Introduction to Sculpture **Credits:** 3
ART 345 - Introduction to Oil Painting **Credits:** 3
ART 365 - Introduction to the Ceramics Spectrum **Credits:** 3
ART 370 - Introduction to Metals and Jewelry **Credits:** 3
ART 395 - Introduction to Digital Photography **Credits:** 3
ART 545 - Twentieth Century Art History I: Post-Impressionism to Cubism **Credits:** 3
ART 550 - Twentieth Century Art History II: Dada to Surrealism **Credits:** 3

Additional Teacher Ed Courses for PK-12 Art Certification: (4 credit hours)

EDEL 450 - Art Methods for Elementary Schools **Credits:** 3
EDEL 451 - Art Practicum for Elementary Schools **Credits:** 1

Total Hours Required for Graduation: 120

Biological Science Education (BS)

Leads to a Kansas Teaching License in 6-12 Biology.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (37 Credit Hours)

A grade of C or higher is required in all Teacher Education courses and practica. A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

Pre-Professional Component: (5 Credit Hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1

Professional Education Component: (32 Credit Hours)

Admission to teacher education required.

Non-Blocked courses (Must be completed before student teaching)

EDCI 405 - Middle-Level Education **Credits:** 2
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
(Must be completed before Block II.)

Block 1: (8 Credit Hours)

Courses must be taken concurrently and prior to Block II.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II: (9 Credit Hours)

Courses must be taken concurently and prior to Student Teaching.

EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1
EDSEC 542 - Science Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 543 - Science Methods Practicum **Credits:** 2

Professional Semester: (12 Credit Hours)

A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Programs

Licensure Requirement: (42 Credit Hours)

BIOL 198 - Principles of Biology **Credits:** 4
*Pinned course for Science Bucket (4)
BIOL 330 - Public Health Biology **Credits:** 3
BIOL 221 - Organismic Biology **Credits:** 5
BIOL 398 - Principles of Genetics **Credits:** 4
BIOL 255 - General Microbiology **Credits:** 4
BIOL 541 - Cell Biology **Credits:** 3
Required Chemistry Courses
CHM 210 - Chemistry I **Credits:** 4
CHM 230 - Chemistry II **Credits:** 4
CHM 350 - General Organic Chemistry **Credits:** 3
CHM 351 - General Organic Chemistry Laboratory **Credits:** 2

Required Supporting Courses: (11 Credit Hours)

If not met through K-State Core requirements, MATH 100 is required.

MATH 100 - College Algebra **Credits:** 3
KSC-030
MATH 150 - Plane Trigonometry **Credits:** 3
PHYS 115 - Descriptive Physics **Credits:** 5
STAT 225 - Introduction to Statistics **Credits:** 3

Additional Teacher Ed Course: (3 Credit Hours)

EDSEC 614 - Laboratory Techniques in Teaching Science **Credits:** 3
EDCI 764 - Engineering Design Practices in Secondary Science Teaching **Credits:** 3

Total Hours Required for Graduation: 120

Business Education (BS)

Leads to a Kansas Teaching license in 6-12 Business.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (37 Credit Hours)

A grade of C or higher is required in all Teacher Education courses and practica. A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

Pre-Professional Component: (5 Credit Hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1

Professional Education Component: (32 Credit Hours)

Admission to teacher education required.

Non-Blocked courses (Must be completed before student teaching)

EDCI 405 - Middle-Level Education **Credits:** 2
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
(Must be completed before Block II.)

Block 1: (8 Credit Hours)

Courses must be taken concurrently and prior to Block II.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II: (9 Credit Hours)

Courses must be taken concurently and prior to Student Teaching.

EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1
EDSEC 532 - Business Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 533 - Business Methods Practicum **Credits:** 2

Professional Semester (Internship): (12 credit hours)

A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Programs

Math Requirement

KSC 030

MATH 100 - College Algebra **Credits:** 3

Licensure Requirement: (49 Credit Hours)

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset **Credits:** 3
FINAN 450 - Principles of Finance **Credits:** 3
MANGT 220 - Principles of Management **Credits:** 3
MANGT 230 - Business Law I **Credits:** 3
MANGT 366 - Information Systems and Business Analytics **Credits:** 3
MANGT 595 - Strategic Management **Credits:** 3
MKTG 250 - Introduction to Marketing **Credits:** 3
MKTG 450 - Consumer Behavior **Credits:** 3
SALES 300 - Fundamentals of Professional Selling **Credits:** 3
OR
COMM 311 - Business and Professional Speaking **Credits:** 3

Supporting Courses: (12 Credit Hours)

PFP 105 - Introduction to Personal Financial Planning **Credits:** 3
ECON 110 - Principles of Macroeconomics **Credits:** 3
ECON 120 - Principles of Microeconomics **Credits:** 3
MIS 411 - Business Programming Applications **Credits:** 3
OR both of the following
CC 110 - Introduction to Computing **Credits:** 2
CC 111 - Elements of Computer Programming **Credits:** 1

Additional Teacher Ed Courses: (4 Credit Hours)

EDSEC 620 - Principles and Philosophy of Career and Technical Education **Credits:** 2-3
EDSEC 621 - Program Planning in Career and Technical Education **Credits:** 2-3

Total Hours Required for Graduation: 120

Chemistry Education (BS)

Leads to a Kansas Teaching License in 6-12 Chemistry.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (37 Credit Hours)

A grade of C or higher is required in all Teacher Education courses and practica. A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

Pre-Professional Component: (5 Credit Hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1

Professional Education Component: (32 Credit Hours)

Admission to teacher education required.

Non-Blocked courses (Must be completed before student teaching)

EDCI 405 - Middle-Level Education **Credits:** 2
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
(Must be completed before Block II.)

Block 1: (8 Credit Hours)

Courses must be taken concurrently and prior to Block II.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II: (9 Credit Hours)

Courses must be taken concurently and prior to Student Teaching.

EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 542 - Science Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 543 - Science Methods Practicum **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1

Professional Semester (Internship): (12 Credit Hours)

A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Licensure Requirement: (46 Credit Hours)

CHM 210 - Chemistry I **Credits:** 4
CHM 230 - Chemistry II **Credits:** 4
CHM 350 - General Organic Chemistry **Credits:** 3
CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
CHM 371 - Chemical Analysis **Credits:** 4
CHM 500 - General Physical Chemistry **Credits:** 3

Supporting Courses Required: (28 Credit Hours)

BIOCH 521 - General Biochemistry **Credits:** 3
BIOCH 522 - General Biochemistry Laboratory **Credits:** 3
BIOL 198 - Principles of Biology **Credits:** 4
GEOL 100 - Earth in Action **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
PHYS 113 - General Physics I **Credits:** 4
STAT 225 - Introduction to Statistics **Credits:** 3

Additional Teacher Ed Course: (6 Credit Hours)

EDSEC 614 - Laboratory Techniques in Teaching Science **Credits:** 3
EDCI 764 - Engineering Design Practices in Secondary Science Teaching **Credits:** 3

Total Hours Required for Graduation: 120

Earth Science Education (BS)

Leads to a Kansas Teaching License in 6-12 Earth Science.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (37 Credit Hours)

A grade of C or higher is required in all Teacher Education courses and practica. A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

Pre-Professional Component: (5 Credit Hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1

Professional Education Component: (32 Credit Hours)

Admission to teacher education required.

Non-Blocked courses (Must be completed before student teaching)

EDCI 405 - Middle-Level Education **Credits:** 2
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
(Must be completed before Block II.)

Block 1: (8 Credit Hours)

Courses must be taken concurrently and prior to Block II.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II: (9 Credit Hours)

Courses must be taken concurently and prior to Student Teaching.

EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1
EDSEC 542 - Science Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 543 - Science Methods Practicum **Credits:** 2

Professional Semester (Internship): (12 Credit Hours)

A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Programs

Licensure Requirement: (46 Credit Hours)

GEOL 100 - Earth in Action **Credits:** 3
GEOL 200 - Earth Through Time **Credits:** 3
GEOL 103 - Geology Laboratory **Credits:** 1
GEOL 105 - Oceanography **Credits:** 3
GEOL 502 - Mineralogy **Credits:** 3
GEOL 510 - Geology of Planets **Credits:** 3
GEOL 520 - Geomorphology **Credits:** 3

Supporting Courses Required: (40 Credit Hours)

If not met through K-State Core requirements, MATH 160 is required.

BIOL 198 - Principles of Biology **Credits:** 4
CHM 210 - Chemistry I **Credits:** 4
GEOG 121 - Introductory Physical Geography: Earth Systems Science **Credits:** 3
GEOG 122 - Introduction to Physical Geography: Earth Systems Science Laboratory **Credits:** 1
MATH 100 - College Algebra **Credits:** 3
KSC 030
MATH 150 - Plane Trigonometry **Credits:** 3
PHYS 113 - General Physics I **Credits:** 4
PHYS 109 - Astronomy **Credits:** 3
STAT 225 - Introduction to Statistics **Credits:** 3

Additional Teacher Ed Course: (6 Credit Hours)

EDSEC 614 - Laboratory Techniques in Teaching Science **Credits:** 3
EDCI 764 - Engineering Design Practices in Secondary Science Teaching **Credits:** 3

Total Hours Required for Graduation: 120

Educational Studies (BS)

Does not lead to teacher licensure.

Kansas State University Core: 34-36 Credit Hours

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General Education: K-State Core

Teacher Education Courses: (29-32 credit hours)

Pre-Professional Component: (5 credit hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1
HDFS 110 - Introduction to Human Development **Credits:** 3

Professional Education Component: (9-10 credit hours)

Admission to teacher education requried.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2
OR
EDSP 224 - Exceptional Child in the Regular Classroom **Credits:** 3

Professional Core: (12-15 credit hours)

EDACE 714 - International Education **Credits:** 3
OR
EDACE 780 - Introduction to Adult Learning and Leadership **Credits:** 3
EDCI 550 - Schooling and Popular Culture **Credits:** 3
EDCI 580 - Internship in Educational Studies **Credits:** 6-9

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC 030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Area of Emphasis: (36 credit hours)

Education Core: (12 credit hours)

Select courses to support professional goals with advisor approval. At least 9 hours must be 300-level or higher and taken at K-State.

Supporting Courses: (24 credit hours)

Select courses to support professional goals with advisor approval. At least 15 hours must be 300-level or higher and taken at K-State.

NOTE:

The student must submit to his or her B.S.E.S. committee (two faculty members, one of which must be from the Department of

Curriculum and Instruction), a program of study focusing upon themes of excellence to prepare him or her for various career fields.

Themes may focus upon, but are not limited to:

Global Education & Development

Museum, Non-Profit, & Outreach Education

Outdoor Education

Pastoral & Religious Education

Pedagogy for Educational Contexts

Social Justice Education

Electives: (18-22 credit hours)

Total Hours Required for Graduation: 120

Elementary Education (BS)

Minimum of 120 credit hours required
Licensure K–6

Bachelor's degree requirements

KBOR Systemwide Elementary Education Requirement {PK-6}

The systemwide transfer degree provides a pathway from any Kansas public community college offering the degree to any Kansas public university for individuals desiring to become licensed as a PK-6 elementary teacher. The pathway identifies courses/credit hours to be taken at the community college level and reflects the Kansas Board of Regents (KBOR) General Education framework "buckets" (https://www.kansasregents.org/academic_affairs/general-education/seven-bucket-framework) and recommended education coursework. These courses/credit hours transfer to any KBOR university as the first sixty hours

toward a 120-hour PK-6 Elementary Education program degree. The remaining sixty hours at KBOR universities are the required courses to complete the PK-6 Elementary Education degree.

General Education: K-State Core Elementary Education PK-6

Teacher Education Preparation Requirements: 26 Credit Hours

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
EDSP 224 - Exceptional Child in the Regular Classroom **Credits:** 3
ENGL 355 - Literature for Children **Credits:** 3
HDFS 110 - Introduction to Human Development **Credits:** 3
Choose one additional PHYS, CHM, or GEOL course from the Natural and Physical Sciences K-State core List {100-299}

Creative Expressions Category: *Choose one of the following*
EDEL 250 - Health and Movement Education in Elementary Classrooms **Credits:** 2
OR
EDEL 270 - Arts for Elementary Schools **Credits:** 3
OR
MUSIC 205 - Music for Elementary Teachers **Credits:** 3
Education Requirement:
EDCI 200 and EDCI 230 must be completed before Admission to the Professional Component.
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1
In consultation with your academic advisor, any approved Education Elective 100-699 in EDCI, EDEL, EDSEC, EDSP EDCI 400 - New Literacies in Contemporary Classrooms **Credits:** 3

Admission Grade Check Requirement

Refer to the Admissions to Teacher Education Requirements in the Catalog.

COMM 106 - Public Speaking I **Credits:** 3
ENGL 100 - Expository Writing I **Credits:** 3
ENGL 200 - Expository Writing II **Credits:** 3
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3
A cumulative GPA of 2.750 needed from admission to Teacher Ed.

Teacher Licensure Requirements: 60 Credit Hours

Refer to the Admissions to Teacher Education Requirements in the Catalog.

Creative Expression: 5-6 Credit Hours

Complete the remaining two courses from the Creative Expression Area in the Teacher Education Preparation Requirements.

EDEL 250 - Health and Movement Education in Elementary Classrooms **Credits:** 2
EDEL 270 - Arts for Elementary Schools **Credits:** 3
MUSIC 205 - Music for Elementary Teachers **Credits:** 3

Education Requirement: [3] Credit Hours

If not already taken must complete the following course:

EDCI 400 - New Literacies in Contemporary Classrooms **Credits:** 3

Professional Component

Block A: 15 Credit Hours

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDCI 400 - New Literacies in Contemporary Classrooms **Credits:** 3
EDEL 412 - Teaching Science: PK-6 **Credits:** 3
EDEL 414 - Teaching Culturally and Linguistically Diverse Learners **Credits:** 3

Block B: 12 Credit Hours

EDEL 410 - Block B Practicum: K-6 **Credits:** 2
EDEL 411 - Science of Reading I **Credits:** 3
EDEL 413 - Classroom Assessment: PK-6 **Credits:** 1
EDEL 465 - Teaching Methods for Mathematics, Grades 3-6 **Credits:** 3
EDEL 415 - Teaching Methods for Mathematics, PK-2 **Credits:** 3

Block C: 15 Credit Hours

EDEL 460 - Block C Practicum: K-6 **Credits:** 2
EDEL 461 - Science of Reading II **Credits:** 3
EDEL 462 - Teaching Social Studies: K-6 **Credits:** 3
EDEL 464 - Classroom Management and Discipline: PK-6 **Credits:** 1
EDEL 466 - Supporting Elementary Learners in Reading and Math, Grades PK-6 **Credits:** 3
EDEL 467 - Teaching Methods for STEAM, PK-6 **Credits:** 3

Professional Semester: 12 Credit Hours

A 3.000 or higher GPA in all Teacher Education courses and practica is
needed before the Professional Semester.

EDEL 585 - Teaching Internship in Elementary School **Credits:** 1-15

Total Hours Required for Graduation: 120

English and Journalism Education (BS)

Leads to a Kansas Teaching License in 6-12 English and Journalism.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

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General Education: K-State Core

Program Requirements: (37 credit hours)

A grade of C or higher is required in all Teacher Education courses and practica. A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

Pre-Professional Component: (5 credit hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1

Professional Education Component: (32 credit hours)

Admission to teacher education required.

Non-Blocked courses: (3 credit hours)

EDCI 405 - Middle-Level Education **Credits:** 2
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
(Must be completed before Block II.)

Block 1: (8 credit hours)

Courses must be taken concurrently and prior to Block II.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II: (9 credit hours)

Courses must be taken concurently and prior to Student Teaching.

EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2

EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1
EDSEC 536 - Language Arts Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 537 - Language Arts Methods Practicum **Credits:** 2

Professional Semester (Internship): (12 credit hours)

A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Program: (48 credit hours)

If not met through K-State Core requirements, MATH 160 is required.

ENGL 310 - Introduction to Literary Studies **Credits:** 3
ENGL 350 - Introduction to Shakespeare **Credits:** 3
ENGL 361 - British Survey I **Credits:** 3
OR
ENGL 362 - British Survey II **Credits:** 3
ENGL 381 - American Survey I **Credits:** 3
OR
ENGL 382 - American Survey II **Credits:** 3
ENGL 435 - Linguistics for Teachers of English **Credits:** 3
ENGL 545 - Literature for Adolescents **Credits:** 3
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3
KSC-030
MC 110 - Mass Communication in Society **Credits:** 3
MC 130 - Writing Conventions and Mechanics **Credits:** 1
MC 131 - Elements of Media Writing **Credits:** 1
MC 132 - Writing Styles and Audiences **Credits:** 1
MC 160 - Principles of Journalism **Credits:** 3
MC 200 - News Reporting and Writing Across Platforms **Credits:** 3
MC 301 - Photo & Video Storytelling **Credits:** 3
MC 331 - Photography Commercial Imaging **Credits:** 3
MC 340 - Editing for Print and Online Media **Credits:** 3
MC 466 - Media Law and Ethics **Credits:** 3
MC 605 - Supervision of School Publications **Credits:** 3
World Literature Course ENGL ***

Total Hours Required for Graduation: 120

English Language Arts Education (BS)

Leads to a Kansas Teaching License in 6-12 English Language Arts.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (37 Credit Hours)

A grade of C or higher is required in all Teacher Education courses and practica. A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

Pre-Professional Component: (5 Credit Hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1

Professional Education Component: (32 Credit Hours)

Admission to teacher education required.

Non-Blocked courses (Must be completed before student teaching)

EDCI 405 - Middle-Level Education **Credits:** 2
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
(Must be completed before Block II.)

Block 1: (8 Credit Hours)

Courses must be taken concurrently and prior to Block II.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II: (9 Credit Hours)

Courses must be taken concurently and prior to Student Teaching.

EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1
EDSEC 536 - Language Arts Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 537 - Language Arts Methods Practicum **Credits:** 2

Professional Semester (Internship): (12 Credit Hours)

A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Program

If not met through K-State Core requirements, MATH 160 is required.

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Licensure Requirement: (42 Credit Hours)

ENGL 310 - Introduction to Literary Studies **Credits:** 3
ENGL 350 - Introduction to Shakespeare **Credits:** 3
ENGL 400 - Advanced Expository Writing for Prospective Teachers **Credits:** 3
ENGL 435 - Linguistics for Teachers of English **Credits:** 3
ENGL 500 - Writing Center Theory and Practice **Credits:** 3
ENGL 545 - Literature for Adolescents **Credits:** 3
English Elective 300+ or above
World Literature Course
Composition Elective
Literature Elective 600 or Above
Literature Elective 600 or Above
Select 3 of the following courses
ENGL 361 - British Survey I **Credits:** 3
ENGL 362 - British Survey II **Credits:** 3
ENGL 381 - American Survey I **Credits:** 3
ENGL 382 - American Survey II **Credits:** 3

Total Hours Required for Graduation: 120

Journalism Education (BS)

Leads to a Kansas Teaching License in 6-12 Journalism.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for

institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (37 Credit Hours)

A grade of C or higher is required in all Teacher Education courses and practica. A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

Pre-Professional Component: (5 Credit Hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1

Professional Education Component: (32 Credit Hours)

Admission to teacher education required.

Non-Blocked courses (Must be completed before student teaching)

EDCI 405 - Middle-Level Education **Credits:** 2
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
(Must be completed before Block II.)

Block 1: (8 Credit Hours)

Courses must be taken concurrently and prior to Block II.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II: (9 Credit Hours)

Courses must be taken concurently and prior to Student Teaching.

EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1
EDSEC 536 - Language Arts Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 537 - Language Arts Methods Practicum **Credits:** 2

Professional Semester (Internship): (12 Credit Hours)

A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Licensure Requirement: (42 Credit Hours)

MC 110 - Mass Communication in Society **Credits:** 3
MC 120 - Principles of Advertising **Credits:** 3
MC 130 - Writing Conventions and Mechanics **Credits:** 1
MC 131 - Elements of Media Writing **Credits:** 1
MC 132 - Writing Styles and Audiences **Credits:** 1
MC 160 - Principles of Journalism **Credits:** 3
MC 180 - Principles of Public Relations **Credits:** 3
MC 191 - Audio Essentials **Credits:** 1
MC 192 - Photography Essentials **Credits:** 1
MC 193 - Video Production Essentials **Credits:** 1
MC 194 - Social Media Essentials **Credits:** 1
MC 195 - Creative Design **Credits:** 1
MC 196 - Content Management for Distribution **Credits:** 1
MC 200 - News Reporting and Writing Across Platforms **Credits:** 3
MC 301 - Photo & Video Storytelling **Credits:** 3
MC 331 - Photography Commercial Imaging **Credits:** 3
MC 340 - Editing for Print and Online Media **Credits:** 3
MC 406 - Multiplatform News Reporting **Credits:** 3
MC 466 - Media Law and Ethics **Credits:** 3
MC 605 - Supervision of School Publications **Credits:** 3

Total Hours Required for Graduation: 120

Mathematics Education (BS)

Leads to a Kansas Teaching License in 6-12 Math.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (37 Credit Hours)

A grade of C or higher is required in all Teacher Education courses and practica. A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

Pre-Professional Component: (5 Credit Hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1

Professional Education Component: (32 Credit Hours)

Admission to teacher education required.

Non-Blocked courses (Must be completed before student teaching)

EDCI 405 - Middle-Level Education **Credits:** 2
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
(Must be completed before Block II.)

Block 1: (8 Credit Hours)

Courses must be taken concurrently and prior to Block II.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II: (9 Credit Hours)

Courses must be taken concurently and prior to Student Teaching.

EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1
EDSEC 538 - Mathematics Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 539 - Mathematics Methods Practicum **Credits:** 2

Professional Semester (Internship): (12 Credit Hours)

A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Licensure Requirement: (37 Credit Hours)

MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
MATH 312 - Finite Applications of Mathematics **Credits:** 3
OR
MATH 510 - Discrete Mathematics **Credits:** 3
MATH 340 - Elementary Differential Equations **Credits:** 4
MATH 511 - Introduction to Algebraic Systems **Credits:** 3
MATH 570 - History of Mathematics **Credits:** 3
MATH 572 - Foundations of Geometry **Credits:** 3
Supporting Courses Required
STAT 225 - Introduction to Statistics **Credits:** 3
OR
STAT 510 - Introductory Probability and Statistics I **Credits:** 3
6 Hours of Approved Math 400+ Courses.

Total Hours Required for Graduation: 120

Modern Languages Education - Chinese (BS)

Leads to a Kansas Teaching License in PK-12 Chinese.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (37 Credit Hours)

A grade of C or higher is required in all Teacher Education courses and practica. A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

Pre-Professional Component: (5 Credit Hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1

Professional Education Component: (32 Credit Hours)

Admission to teacher education required.

Non-Blocked courses (Must be completed before student teaching)

EDCI 405 - Middle-Level Education **Credits:** 2
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
(Must be completed before Block II.)

Block 1: (8 Credit Hours)

Courses must be taken concurrently and prior to Block II.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II: (9 Credit Hours)

Courses must be taken concurently and prior to Student Teaching.

EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1
EDSEC 540 - Modern Language Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 541 - Modern Language Methods Practicum **Credits:** 2

Professional Semester (Internship): (12 Credit Hours)

A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Licensure Requirement: (35 Credit Hours)

CHINE 101 - Chinese I **Credits:** 4
CHINE 200 - Chinese II **Credits:** 4
CHINE 201 - Chinese III **Credits:** 4
CHINE 301 - Chinese IV **Credits:** 4
CHINE 501 - Chinese V **Credits:** 3
CHINE 502 - Chinese VI **Credits:** 3
CHINE 599 - Special Studies in Chinese **Credits:** 0-18
EDEL 620 - Foreign Language Elementary School Methods **Credits:** 3
EDEL 621 - Foreign Language Elementary School Practicum **Credits:** 1
CHINE Electives at 500+ Suggested: **Credits / Units:** 6
HIST 504 - Intellectual History of Early China **Credits:** 3
HIST 507 - China Since 1644 **Credits:** 3
POLSC 511 - Contemporary Chinese Politics **Credits:** 3

Total Hours Required for Graduation: 120

Modern Languages Education - French (BS)

Leads to a Kansas Teaching License in PK-12 French.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (37 Credit Hours)

A grade of C or higher is required in all Teacher Education courses and practica. A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

Pre-Professional Component: (5 Credit Hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1

Professional Education Component: (32 Credit Hours)

Admission to teacher education requried.

Non-Blocked courses (Must be completed before student teaching)

EDCI 405 - Middle-Level Education **Credits:** 2
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
(Must be completed before Block II.)

Block 1: (8 Credit Hours)

Courses must be taken concurrently and prior to Block II.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II: (9 Credit Hours)

Courses must be taken concurently and prior to Student Teaching.

EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 540 - Modern Language Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 541 - Modern Language Methods Practicum **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1

Professional Semester (Internship): (12 Credit Hours)

A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

EDEL 585 - Teaching Internship in Elementary School **Credits:** 1-15
EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030

MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Licensure Requirement: (31 Credit Hours)

EDEL 620 - Foreign Language Elementary School Methods **Credits:** 3
EDEL 621 - Foreign Language Elementary School Practicum **Credits:** 1
FREN 201 - French III **Credits:** 3
FREN 301 - French IV **Credits:** 3
FREN 520 - Introduction to French Literature (19th Century to the Present) **Credits:** 3
Choose 9 hours from the following:
FREN 501 - Readings in French **Credits:** 3
FREN 503 - French Composition and Grammar **Credits:** 3
FREN 514 - Contemporary France **Credits:** 3
FREN 515 - History of French Culture **Credits:** 3
FREN 517 - French for the Professions **Credits:** 3
FREN 518 - French Conversation **Credits:** 3
FREN 519 - Special Studies in French **Credits:** 1-18
FREN 530 - Topics in French/Francophone Literature and Culture **Credits:** 3

FREN 700+: (6 Credit Hours)

FREN 709 - Medieval French Literature **Credits:** 3
FREN 710 - Sixteenth-Century French Literature **Credits:** 3
FREN 711 - Seventeenth-Century French Literature **Credits:** 3
FREN 713 - Eighteenth-Century French Literature **Credits:** 3
FREN 715 - 19th Century French Literature **Credits:** 3
FREN 716 - Topics in Contemporary French Literature **Credits:** 3
FREN 719 - Advanced Spoken and Written French **Credits:** 3
FREN 720 - Seminar in French Literature and Culture **Credits:** 3
FREN 721 - Francophone Literature and Culture **Credits:** 3
FREN 743 - French Second Language Acquisition Culture and Literature **Credits:** 3
FREN 799 - Problems in Modern Languages **Credits:** 1-18

Total Hours Required for Graduation: 120

Modern Languages Education - German (BS)

Leads to a Kansas Teaching License in PK-12 German.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (37 Credit Hours)

A grade of C or higher is required in all Teacher Education courses and practica. A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

Pre-Professional Component: (5 Credit Hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1

Professional Education Component: (32 Credit Hours)

Admission to teacher education required.

Non-Blocked courses (Must be completed before student teaching)

EDCI 405 - Middle-Level Education **Credits:** 2
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
(Must be completed before Block II.)

Block 1: (8 Credit Hours)

Courses must be taken concurrently and prior to Block II.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II: (9 Credit Hours)

Courses must be taken concurently and prior to Student Teaching.

EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 540 - Modern Language Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 541 - Modern Language Methods Practicum **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1

Professional Semester (Internship): (12 Credit Hours)

A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Licensure Requirement: (34 Credit Hours)

EDEL 620 - Foreign Language Elementary School Methods **Credits:** 3
EDEL 621 - Foreign Language Elementary School Practicum **Credits:** 1
GRMN 201 - German III **Credits:** 3
GRMN 301 - German IV **Credits:** 3
GRMN 521 - Introductory Topics in German Literature and Culture of the 18th and 19th century **Credits:** 3
GRMN Elective 200+ Level
GRMN 522 - Introductory Topics in German Literature and Culture of the 20th and 21st century **Credits:** 3

500+ Level German: (9 Credit Hours)

GRMN 503 - German Literature in Translation **Credits:** 3
GRMN 510 - German Film **Credits:** 3
GRMN 515 - Topics in German Cultural Studies **Credits:** 3
GRMN 523 - German Composition **Credits:** 3
GRMN 527 - Advanced German Conversation **Credits:** 3
GRMN 529 - Special Studies in German **Credits:** 1-18
GRMN 530 - German Cultural Studies and History **Credits:** 3

700+ Level German: (6 Credit Hours)

Either
GRMN 720 - Open Topics Seminar in German Language and Linguistics **Credits:** 3
OR
GRMN 729 - Open Topics Seminar in German Literature and Culture **Credits:** 3
GRMN 701 - Topics in Eighteenth Century German Literature and Culture **Credits:** 3
GRMN 702 - Topics in Nineteenth Century German Literature and Culture **Credits:** 3

GRMN 703 - Topics in Early Twentieth Century German Literature and Culture **Credits:** 3
GRMN 704 - Topics in German Literature and Culture since 1945 **Credits:** 3
GRMN 705 - Topics in Twentieth and Twenty-First Century German Literature and Culture **Credits:** 3
GRMN 731 - Advanced German: Speaking and Writing **Credits:** 3

Total Hours Required for Graduation: 120

Modern Languages Education - Japanese (BS)

Leads to a Kansas Teaching License in PK-12 Japanese.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (37 Credit Hours)

A grade of C or higher is required in all Teacher Education courses and practica. A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

Pre-Professional Component: (5 Credit Hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1

Professional Education Component: (32 Credit Hours)

Admission to teacher education required.

Non-Blocked courses (Must be completed before student teaching)

EDCI 405 - Middle-Level Education **Credits:** 2
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
(Must be completed before Block II.)

Block 1: (8 Credit Hours)

Courses must be taken concurrently and prior to Block II.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II: (9 Credit Hours)

Courses must be taken concurently and prior to Student Teaching.

EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 540 - Modern Language Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 541 - Modern Language Methods Practicum **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1

Professional Semester (Internship): (12 Credit Hours)

A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Licensure Requirement: (39 Credit Hours)

EDEL 620 - Foreign Language Elementary School Methods **Credits:** 3
EDEL 621 - Foreign Language Elementary School Practicum **Credits:** 1
HIST 508 - Introduction to Modern East Asia **Credits:** 3
OR
HIST 509 - Japan Since 1550 **Credits:** 3
JAPAN 101 - Japanese I **Credits:** 4
JAPAN 200 - Japanese II **Credits:** 4
JAPAN 201 - Japanese III **Credits:** 4
JAPAN 301 - Japanese IV **Credits:** 4
JAPAN 391 - Culture of Japanese Communication **Credits:** 3
JAPAN 501 - Japanese V **Credits:** 3
JAPAN 502 - Japanese VI **Credits:** 3
JAPAN 599 - Special Studies in Japanese **Credits:** 0-18

Total Hours Required for Graduation: 120

Modern Languages Education - Spanish (BS)

Leads to a Kansas Teaching License in PK-12 in Spanish.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (37 Credit Hours)

A grade of C or higher is required in all Teacher Education courses and practica. A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

Pre-Professional Component: (5 Credit Hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1

Professional Education Component: (32 Credit Hours)

Admission to teacher education required.

Non-Blocked courses (Must be completed before student teaching)

EDCI 405 - Middle-Level Education **Credits:** 2
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
(Must be completed before Block II.)

Block 1: (8 Credit Hours)

Courses must be taken concurrently and prior to Block II.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II: (9 Credit Hours)

Courses must be taken concurently and prior to Student Teaching.

EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 540 - Modern Language Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 541 - Modern Language Methods Practicum **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1

Professional Semester (Internship): (12 Credit Hours)

A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Licensure Requirement: (37 Credit Hours)

SPAN 201 - Spanish III **Credits:** 3
SPAN 301 - Spanish IV **Credits:** 3
OR
SPAN 302 - Spanish IV for Heritage Speakers **Credits:** 3
SPAN 410 - Spanish Communication through Pop Culture **Credits:** 3
SPAN 550 - Introduction to Hispanic Readings and Media **Credits:** 3
Choose 3 Hours from the Following:
SPAN 420 - Spanish Conversation **Credits:** 3
SPAN 421 - Listening Skills **Credits:** 3
SPAN 530 - Professional Spanish: Business **Credits:** 3
SPAN 531 - Professional Spanish: Health and Human Services **Credits:** 3
SPAN 575 - Introduction to Spanish Translation **Credits:** 3
Choose 3 of the following courses
SPAN 560 - Cultures of the Spanish-speaking World: U.S. Latinx **Credits:** 3
SPAN 565 - Cultures of the Spanish-speaking World: Spain **Credits:** 3
SPAN 566 - Cultures of the Spanish-speaking World: Spanish America **Credits:** 3
SPAN 567 - Cultures of the Spanish-speaking World: Transatlantic **Credits:** 3
SPAN 568 - Literature of Spanish America **Credits:** 3
SPAN 580 - Introduction to Spanish Linguistics **Credits:** 3

Advanced Courses: (9 Credit Hours)

SPAN 700+

SPAN 700+
SPAN 799 - Research Topics in Spanish **Credits:** 1-18

Additional Teacher Education Courses: (4 Credit Hours)

EDEL 620 - Foreign Language Elementary School Methods **Credits:** 3
EDEL 621 - Foreign Language Elementary School Practicum **Credits:** 1

Total Hours Required for Graduation: 120

Physical Education/ Health Education (BS)

Leads to a Kansas Teaching License in PK-12 Physical Education and Health.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (37 Credit Hours)

A grade of C or higher is required in all Teacher Education courses and practica. A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

Pre-Professional Component: (5 Credit Hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1

Professional Education Component: (32 Credit Hours)

Admission to teacher education required.

Non-Blocked courses (Must be completed before student teaching)

EDCI 405 - Middle-Level Education **Credits:** 2
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
(Must be completed before Block II.)

Block 1: (8 Credit Hours)

Courses must be taken concurrently and prior to Block II.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II: (9 Credit Hours)

Courses must be taken concurently and prior to Student Teaching.

EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1
EDSEC 546 - Physical Education/Health Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 547 - Physical Education/Health Practicum for Secondary and Middle Schools **Credits:** 2

Professional Semester (Internship): (12 Credit Hours)

A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

EDEL 585 - Teaching Internship in Elementary School **Credits:** 1-15
EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Licensure Requirement: (48 Credit Hours)

BIOL 101 - Concepts of Biology **Credits:** 4
OR
BIOL 198 - Principles of Biology **Credits:** 4
EDCI 301 - Coaching and Officiating Methodology **Credits:** 3
EDCI 361 - PK-12 PE Motor Skills and Game Development **Credits:** 3
EDCI 381 - PK-12 PE Assessment and Measurements **Credits:** 2
EDEL 520 - Physical Education/Health Methods for PK-6 Schools **Credits:** 3
EDEL 521 - Physical Education/Health Practicum for PK-6 Schools **Credits:** 1
EDSEC 360 - Introduction to Physical Education/Health **Credits:** 3
EDSEC 380 - Adaptive Physical Education **Credits:** 2
FNDH 132 - Basic Nutrition **Credits:** 3
FNDH 220 - Care and Prevention of Athletic Injuries **Credits:** 3

FNDH 252 - Personal Wellness **Credits:** 3
HDFS 302 - Introduction to Human Sexuality **Credits:** 3
KIN 220 - Biobehavioral Bases of Physical Activity **Credits:** 4
KIN 320 - Motor Learning and Development **Credits:** 3
KIN 380 - Principles of Exercise Training **Credits:** 3
PSYCH 110 - General Psychology **Credits:** 3
KIN Activity Electives **Credits / Units:** 2

Total Hours Required for Graduation: 120

Physics Education (BS)

Leads to a Kansas Teaching License in 6-12 Physics.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (37 Credit Hours)

A grade of C or higher is required in all Teacher Education courses and practica. A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

Pre-Professional Component: (5 Credit Hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1

Professional Education Component: (32 Credit Hours)

Admission to teacher education required.

Non-Blocked courses (Must be completed before student teaching)

EDCI 405 - Middle-Level Education **Credits:** 2
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
(Must be completed before Block II.)

Block 1: (8 Credit Hours)

Courses must be taken concurrently and prior to Block II.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II: (9 Credit Hours)

Courses must be taken concurently and prior to Student Teaching.

EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1
EDSEC 542 - Science Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 543 - Science Methods Practicum **Credits:** 2

Professional Semester (Internship): (12 Credit Hours)

A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Programs

The curriculum for this major assumes students enter college prepared to take Calculus.

Licensure Requirement: (23 Credit Hours)

PHYS 122 - Physics Today I **Credits:** 1
PHYS 123 - Physics Today II **Credits:** 1
PHYS 109 - Astronomy **Credits:** 3
PHYS 223 - Physics I, Mechanics, and Thermodynamics **Credits:** 5
PHYS 224 - Physics II, Electromagnetism, and Sound **Credits:** 5
PHYS 325 - Physics III, Relativity, and Quantum Physics **Credits:** 4
PHYS 506 - Advanced Physics Laboratory **Credits:** 4

Required Supporting Courses: (24 Credit Hours)

BIOL 198 - Principles of Biology **Credits:** 4
KSC 040
CHM 210 - Chemistry I **Credits:** 4
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
KSC 030

MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
MATH 340 - Elementary Differential Equations **Credits:** 4

Additional Teacher Ed Course: (6 Credit Hours)

EDSEC 614 - Laboratory Techniques in Teaching Science **Credits:** 3
EDCI 764 - Engineering Design Practices in Secondary Science Teaching **Credits:** 3

Total Hours Required for Graduation: 120

Social Studies Education (BS)

Leads to a Kansas Teaching License in 6-12 Social Studies.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (37 Credit Hours)

A grade of C or higher is required in all Teacher Education courses and practica. A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

Pre-Professional Component: (5 Credit Hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1

Professional Education Component: (32 Credit Hours)

Admission to teacher education required.

Non-Blocked courses (Must be completed before student teaching)

EDCI 405 - Middle-Level Education **Credits:** 2

EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
(Must be completed before Block II.)

Block 1: (8 Credit Hours)

Courses must be taken concurrently and prior to Block II.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II: (9 Credit Hours)

Courses must be taken concurently and prior to Student Teaching.

EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1
EDSEC 544 - Social Studies Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 545 - Social Studies Methods Practicum **Credits:** 2

Professional Semester (Internship): (12 Credit Hours)

A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Licensure Requirement: (48 Credit Hours)

HIST 111 - World History to 1450 **Credits:** 3
HIST 112 - World History From 1450 **Credits:** 3
HIST 151 - History of the United States to 1877 **Credits:** 3
HIST 152 - History of the United States Since 1877 **Credits:** 3
HIST 558 - History of Kansas **Credits:** 3
GEOG 100 - World Geography & Globalization **Credits:** 3
GEOG 121 - Introductory Physical Geography: Earth Systems Science **Credits:** 3
GEOG 122 - Introduction to Physical Geography: Earth Systems Science Laboratory **Credits:** 1
GEOG 200 - Human Geography **Credits:** 3
POLSC 115 - U.S. Politics **Credits:** 3

POLSC 135 - Introduction to Comparative Politics **Credits:** 3
OR
POLSC 145 - World Politics **Credits:** 3
POLSC 155 - Introduction to Political Thought **Credits:** 3
ECON 110 - Principles of Macroeconomics **Credits:** 3
ECON 120 - Principles of Microeconomics **Credits:** 3
SOCIO 211 - Introduction to Sociology **Credits:** 3
ANTH 204 - A General Education Introduction to Cultural Anthropology **Credits:** 3

Upper Level Social Studies: (6 Credit Hours)

At least 6 credit hours required. Choose one listed course from at least two of the following departments.

A. US History: Any 500-level Non-US History courses-and Non-US as 500+

B. Non-US History: Any 500-level Non-US HIST Course

C. Political Science:

POLSC 321 - Kansas Politics and Government **Credits:** 3
POLSC 525 - U.S. National Government and Politics **Credits:** 3
POLSC 603 - Political Parties and Elections **Credits:** 3
POLSC 605 - The American Presidency **Credits:** 3

D. Geography

GEOG 302 - Cartography and Thematic Mapping **Credits:** 3
GEOG 310 - Geography of Kansas **Credits:** 3
GEOG 340 - Natural Resources **Credits:** 3
GEOG 460 - Human Dimensions of Global Change **Credits:** 3
GEOG 500 - Geography of the United States **Credits:** 3
GEOG 508 - Geographic Information Systems I **Credits:** 4

E. Economics

ECON 510 - Intermediate Macroeconomics **Credits:** 3
ECON 520 - Intermediate Microeconomics **Credits:** 3
ECON 523 - Human Resource Economics **Credits:** 3
ECON 530 - Money and Banking **Credits:** 3
ECON 536 - Comparative Economics **Credits:** 3
ECON 555 - Urban and Regional Economics **Credits:** 3

F. Sociology

SOCIO 440 - Social Organization **Credits:** 3
SOCIO 450 - Introduction to Social Interaction **Credits:** 3
SOCIO 507 - International Development and Social Change **Credits:** 3

SOCIO 533 - Society, Food, and Agriculture **Credits:** 3

G. Anthropology

ANTH 260 - Introduction to Archeology **Credits:** 3
ANTH 505 - South Asian Civilizations **Credits:** 3

Additional Teacher Education Courses: (5 Credit Hours)

EDSEC 328 - Social Studies Colloquium I **Credits:** 1
EDSEC 428 - Social Studies Colloquium II **Credits:** 1
EDSEC 528 - Social Studies Colloquium III **Credits:** 3

Free Elective: (2 Credit Hours)

Any course chosen by the student to complete 120 credit hour requirement for program.

Total Hours Required for Graduation: 120

Speech Education (BS)

Leads to a Kansas Teaching License in 6-12 Speech.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

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General Education: K-State Core

Program Requirements: (37 Credit Hours)

A grade of C or higher is required in all Teacher Education courses and practica. A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

Pre-Professional Component: (5 Credit Hours)

EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1

Professional Education Component: (32 Credit Hours)

Admission to teacher education required.

Non-Blocked courses (Must be completed before student teaching)

EDCI 405 - Middle-Level Education **Credits:** 2
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
(Must be completed before Block II.)

Block 1: (8 Credit Hours)

Courses must be taken concurrently and prior to Block II.

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II: (9 Credit Hours)

Courses must be taken concurently and prior to Student Teaching.

EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1
EDSEC 536 - Language Arts Methods for Secondary and Middle Schools **Credits:** 3
EDSEC 537 - Language Arts Methods Practicum **Credits:** 2

Professional Semester (Internship): (12 Credit Hours)

A 3.0 or higher grade point average in Teacher Education courses and practica is needed before the Professional Semester.

EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Programs

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

Licensure Requirement: (47 Credit Hours)

COMM 321 - Advanced Public Speaking **Credits:** 3
COMM 130 - Interpersonal Communication **Credits:** 3

COMM 325 - Argumentation and Debate **Credits:** 3
COMM 326 - Group Communication **Credits:** 3
COMM 330 - Rhetoric in Civic Life **Credits:** 3
COMM 426 - Coaching and Directing Speech Activities **Credits:** 3
MC 110 - Mass Communication in Society **Credits:** 3
THTRE 211 - Run Crew **Credits:** 0-2
Concurrent with 369
THTRE 212 - Wardrobe Crew **Credits:** 1
THTRE 171 - Fundamentals of Acting **Credits:** 3
THTRE 263 - Oral Interpretation of Literature **Credits:** 3
THTRE 270 - Introduction to Theatre **Credits:** 3
THTRE 280 - Script Analysis **Credits:** 3
THTRE 269 - Fundamentals of Technical Production **Credits:** 3
THTRE 369 - Fundamentals of Theatrical Design **Credits:** 3
THTRE 565 - Principles of Directing **Credits:** 3
THTRE 572 - History of Theatre I **Credits:** 3
OR
THTRE 573 - History of Theatre II **Credits:** 3

Total Hours Required for Graduation: 120

Undergraduate Certificate

Computer Science Education Undergraduate Certificate

The Undergraduate Certificate in Computer Science Education is a collaborative program between the Department of Computer Science and the Department of Curriculum and Instruction. Students will develop advanced programing skills as well as appropriate pedagogical knowledge to teach computer science in a K-12 setting.

Required Courses

CC 110 - Introduction to Computing **Credits:** 2
CC 111 - Elements of Computer Programming **Credits:** 1
CC 210 - Fundamental Computer Programming Concepts **Credits:** 4
EDCI 365 - Problem-Based Learning and Computational Thinking in K-12 Schools **Credits:** 3
Select one of the following:
EDCI 368 - Teaching Computer Science in Elementary Schools **Credits:** 3
EDCI 369 - Teaching Computer Science in Secondary Schools **Credits:** 3

Total Hours Required: 13

Educational Technology Undergraduate Certificate

This 12-credit Undergraduate Educational Technology Certificate prepares participants to create appropriate environments to facilitate effective teaching and meaningful student learning in K-12 settings with technology.

Program Goals

To provide a foundation in the pedagogy of online teaching and learning.
To prepare undergraduates to create online courses, all built on up-to-date best practices in Learning Management Systems.
To provide the knowledge and skills necessary to design, implement and teach effective online courses in the K-12 Virtual Schools.

Student Learning Objectives

Upon completing this 12-credit Certificate program, participants will be able to:

Explain the key principles and practices of effective online teaching. (Addressed in EDCI 505)
Analyze target online learner populations to determine their current knowledge gaps and ascertain their learning/performance needs. (Addressed in EDCI 506 and EDCI 508)
Design effective online instruction employing instructional and generative strategies that are appropriate to student learning objectives. (Addressed in EDCI 506 and EDCI 508)
Develop effective online instructional modules that feature the use of optimally appropriate media technologies. (Addressed in EDCI 507 and 508)
Plan for appropriate formative and summative evaluation of student learning and instructional effectiveness. (Addressed in EDCI 507 and 508)

Required Courses: 12 credit hours

EDCI 505 - Introduction to Education Technology **Credits:** 3
EDCI 506 - Instructional Systems Design **Credits:** 3
EDCI 507 - Evaluating Educational Media Products **Credits:** 3
EDCI 508 - Social/Cultural Issues in Educational Technology **Credits:** 3

Total Hours Required: 12

Rural Education Undergraduate Certificate

Rural teaching contexts present unique dynamics, possibilities, and challenges for K-12 teachers. Students in this program will explore foundational teaching concepts from the perspective of rural education. They will gain practical insights and strategies for supporting student success through coursework that highlights the perspectives and experiences of practicing rural educators. Students will apply their developing knowledge and skills through a culminating capstone project in a rural school community.

Required Courses: (14 Credit Hours)

EDCI 111 - Foundations of Rural Education **Credits:** 4
EDCI 201 - Teaching as a Career in Rural Contexts **Credits:** 2
EDCI 319 - Educational Technology for Rural Teaching and Learning **Credits:** 2
EDCI 321 - Core Teaching Skills and Lab for Rural Education **Credits:** 4
EDCI 581 - Ethnographic Capstone Project in Rural Education **Credits:** 2

Total Hours Required for Graduation: 14

Sports Performance Coaching Undergraduate Certificate

The coaching certificate is open to students who plan to coach at the high school level after graduation. The Kansas State High School Activities Association accepts the K-State College of Education coaching certificate as a substitute for the American Coaching Effectiveness Program, which is currently offered through the KSHSAA educational program.

Program requirements (12 credit hours)

Any student interested in the College of Education certificate program should take the following hours of course work:

EDCI 300 - Principles of Coaching **Credits:** 3
EDCI 301 - Coaching and Officiating Methodology **Credits:** 3
FNDH 220 - Care and Prevention of Athletic Injuries **Credits:** 3

Total Hours Required: 12

Urban Education Undergraduate Certificate

Urban teaching contexts present unique dynamics, possibilities, and challenges for K-12 teachers. Students in this program will explore foundational teaching concepts from the perspective of urban education. They will gain practical insights and strategies for supporting student success through coursework that highlights the perspectives and experiences of practicing urban educators. Students will apply their developing knowledge and skills through a culminating capstone project in an urban school community.

Required Courses (14 credit hours)

EDCI 112 - Foundations of Urban Education **Credits:** 4
EDCI 202 - Teaching as a Career in Urban Contexts **Credits:** 2
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
EDCI 322 - Core Teaching Skills and Lab for Urban Education **Credits:** 4

Total Hours Required for Graduation: 14

Other Program Choices

Art Education (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
ART 180 - AandD: Color, Light, and Perception Lab	3	**KSC 060**	
ART 195 - Survey of Western Art History I	3		

EDCI 110 - Foundations of Education	3	
Total Credits: 15		
Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
Arts/Humanities Elective	3	**KSC 060**
PSYCH 110 - General Psychology	3	**KSC 050**
ART 190 - Drawing I	3	
ART 196 - Survey of Western Art History II	3	
Total Credits: 15		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II	3	**KSC 010**
Arts/Humanities Elective	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
ART 200 - AandD: Visual Representation and Fabrication	3	
ART 311 - Drawing: Expanded Media	3	
EDCI 200 - Teaching as a Career	1	
EDCI 230 - Early Field Experience	1	
Total Credits: 17		
Semester 2		
ART 320 - Water Media	3	
ART 335 - Introduction to Printmaking Techniques	3	

Social/Behavioral Science	3	**KSC 050**
Science w/Lab	4	**KSC 040**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Third Year		
Semester 1		
ART 395 - Introduction to Digital Photography	3	
ART 545 - Twentieth Century Art History I: Post-Impressionism to Cubism	3	
EDCI 315 - Educational Psychology	3	
EDSP 323 - Exceptional Students in the Secondary School	2	
EDCI 318 - Educational Technology for Teaching and Learning	1	
EDCI 320 - Core Teaching Skills and Lab	3	
Total Credits: 15		
Semester 2		
ART 345 - Introduction to Oil Painting	3	
ART 365 - Introduction to the Ceramics Spectrum	3	
ART 550 - Twentieth Century Art History II: Dada to Surrealism	3	
EDEL 450 - Art Methods for Elementary Schools	3	
EDEL 451 - Art Practicum for Elementary Schools	1	
Elective	2	
Total Credits: 15		
Fourth Year		

Semester 1		
ART 330 - Digital Techniques in Visual Art	3	
ART 370 - Introduction to Metals and Jewelry	3	
EDSEC 477 - Content Area Literacies and Diverse Learners	2	
EDSEC 525 - Interpersonal Relations in the Schools	1	
EDSEC 530 - Art Methods for Secondary and Middle Schools	3	
EDSEC 531 - Art Methods Practicum	2	
EDSEC 455 - Teaching in a Multicultural Society	1	
Total Credits: 15		
Semester 2		
EDEL 585 - Teaching Internship in Elementary School	1-15	
EDSEC 586 - Teaching Internship in Secondary Schools	1-12	
Total Credits: 12		
Total Program Hours: 120		

Biological Science Education (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
BIOL 198 - Principles of Biology	4	**KSC 040**
EDCI 110 - Foundations of Education	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 100 - College Algebra	3	**KSC 030**
PSYCH 110 - General Psychology	3	**KSC 050**

Total Credits: 16			
Semester 2			
CHM 210 - Chemistry I	4		
COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 200 - Expository Writing II	3	**KSC 010**	
Arts and Humanities Requirement	3	**KSC 060**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Second Year			
Semester 1			
CHM 230 - Chemistry II	4		
EDCI 200 - Teaching as a Career	1		
EDCI 230 - Early Field Experience	1		
MATH 150 - Plane Trigonometry	3		
PHYS 113 - General Physics I	4		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Semester 2			
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Arts and Humanities Requirement	3	**KSC 060**	
STAT 225 - Introduction to Statistics	3		
BIOL 255 - General Microbiology	4		

CHM 350 - General Organic Chemistry	3		
Total Credits: 16			
Third Year			
Semester 1			
BIOL 330 - Public Health Biology	3		
BIOL 398 - Principles of Genetics	4		
CHM 351 - General Organic Chemistry Laboratory	2		
EDCI 315 - Educational Psychology	3		
EDCI 320 - Core Teaching Skills and Lab	3		
EDSP 323 - Exceptional Students in the Secondary School	2		
Total Credits: 17			
Semester 2			
EDCI 318 - Educational Technology for Teaching and Learning	1		
EDCI 405 - Middle-Level Education	2		
EDCI 764 - Engineering Design Practices in Secondary Science Teaching	3		
BIOL 541 - Cell Biology	3		
BIOL 221 - Organismic Biology	5		
Total Credits: 14			
Fourth Year			
Semester 1			
EDSEC 455 - Teaching in a Multicultural Society	1		
EDSEC 477 - Content Area Literacies and Diverse Learners	3		

EDSEC 542 - Science Methods for Secondary and Middle Schools	3		
EDSEC 543 - Science Methods Practicum	2		
EDSEC 614 - Laboratory Techniques in Teaching Science	3		
EDSEC 525 - Interpersonal Relations in the Schools	1		
Elective	1		
Total Credits: 13			
Semester 2			
EDSEC 586 - Teaching Internship in Secondary Schools	1-12		
Total Credits: 12			
Total Program Hours: 120			

Business Education (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
EDCI 110 - Foundations of Education	3		
PFP 105 - Introduction to Personal Financial Planning	3		
PSYCH 110 - General Psychology	3	**KSC 050**	
Total Credits: 15			
Semester 2			
ENGL 200 - Expository Writing II	3	**KSC 010**	

COMM 106 - Public Speaking I	3	**KSC 020**
Arts and Humanities Requirement	3	**KSC 060**
ACCTG 231 - Introduction to Managerial Accounting	3	
ECON 110 - Principles of Macroeconomics	3	
Total Credits: 15		
Second Year		
Semester 1		
Arts and Humanities Requirement	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
EDCI 200 - Teaching as a Career	1	
EDCI 230 - Early Field Experience	1	
ACCTG 241 - Introduction to Financial Accounting	3	
ECON 120 - Principles of Microeconomics	3	
MANGT 220 - Principles of Management	3	
Total Credits: 17		
Semester 2		
Natural and Physical Sciences Requirement	4	**KSC 040**
Social and Behavioral Sciences Requirement	3	**KSC 050**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
MANGT 230 - Business Law I	3	
MANGT 366 - Information Systems and Business Analytics	3	
Total Credits: 16		

Third Year			
Semester 1			
EDCI 315 - Educational Psychology	3		
EDCI 320 - Core Teaching Skills and Lab	3		
EDSP 323 - Exceptional Students in the Secondary School	2		
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset	3		
FINAN 450 - Principles of Finance	3		
Total Credits: 14			
Semester 2			
CC 110 - Introduction to Computing **AND**	2		
CC 111 - Elements of Computer Programming **OR**	1		
MIS 411 - Business Programming Applications	3		
COMM 311 - Business and Professional Speaking **OR**	3		
SALES 300 - Fundamentals of Professional Selling	3		
MKTG 250 - Introduction to Marketing	3		
EDCI 318 - Educational Technology for Teaching and Learning	1		
MKTG 450 - Consumer Behavior	3		
EDSEC 620 - Principles and Philosophy of Career and Technical Education	2-3		
Total Credits: 15			
Fourth Year			
Semester 1			
EDCI 405 - Middle-Level Education	2		
EDSEC 455 - Teaching in a Multicultural Society	1		

EDSEC 477 - Content Area Literacies and Diverse Learners	2		
EDSEC 525 - Interpersonal Relations in the Schools	1		
EDSEC 532 - Business Methods for Secondary and Middle Schools	3		
EDSEC 533 - Business Methods Practicum	2		
EDSEC 621 - Program Planning in Career and Technical Education	2-3		
MANGT 595 - Strategic Management	3		
Total Credits: 16			
Semester 2			
EDSEC 586 - Teaching Internship in Secondary Schools	1-12		
Total Credits: 12			
Total Program Hours: 120			

Chemistry Education (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
CHM 210 - Chemistry I	4	**KSC 040**
EDCI 110 - Foundations of Education	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Art and Humanities Requirement	3	**KSC 060**
Total Credits: 17		

Semester 2		
CHM 230 - Chemistry II	4	
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 200 - Expository Writing II	3	**KSC 010**
Math/Stats Course	3	
Free Electives	3	
Total Credits: 17		
Second Year		
Semester 1		
BIOL 198 - Principles of Biology	4	
EDCI 200 - Teaching as a Career	1	
EDCI 230 - Early Field Experience	1	
GEOL 100 - Earth in Action	3	
PHYS 113 - General Physics I	4	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
CHM 371 - Chemical Analysis	4	
PSYCH 110 - General Psychology	3	**KSC 050**
Social and Behavioral Sciences Requirement	3	**KSC 050**
Arts and Humanities Requirement	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		

Third Year		
Semester 1		
CHM 350 - General Organic Chemistry	3	
EDCI 315 - Educational Psychology	3	
CHM 351 - General Organic Chemistry Laboratory	2	
EDCI 320 - Core Teaching Skills and Lab	3	
EDSP 323 - Exceptional Students in the Secondary School	2	
EDCI 764 - Engineering Design Practices in Secondary Science Teaching	3	
Total Credits: 16		
Semester 2		
BIOCH 521 - General Biochemistry	3	
BIOCH 522 - General Biochemistry Laboratory	3	
CHM 500 - General Physical Chemistry	3	
EDCI 318 - Educational Technology for Teaching and Learning	1	
EDCI 405 - Middle-Level Education	2	
STAT 225 - Introduction to Statistics	3	
Total Credits: 15		
Fourth Year		
Semester 1		
EDSEC 455 - Teaching in a Multicultural Society	1	
EDSEC 477 - Content Area Literacies and Diverse Learners	2	
EDSEC 525 - Interpersonal Relations in the Schools	1	

EDSEC 542 - Science Methods for Secondary and Middle Schools	3		
EDSEC 543 - Science Methods Practicum	2		
EDSEC 614 - Laboratory Techniques in Teaching Science	3		
Total Credits: 12			
Semester 2			
EDSEC 586 - Teaching Internship in Secondary Schools	1-12		
Total Credits: 12			
Total Program Hours: 120			

Earth Science Education (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
EDCI 110 - Foundations of Education	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
GEOL 100 - Earth in Action	3		
GEOL 103 - Geology Laboratory	1		
BIOL 198 - Principles of Biology	4		
Arts & Humanities Course	3	**KSC 060**	
Total Credits: 17			
Semester 2			
CHM 210 - Chemistry I	4	**KSC 040**	
COMM 106 - Public Speaking I	3	**KSC 020**	

ENGL 200 - Expository Writing II	3	**KSC 010**
GEOL 200 - Earth Through Time	3	
MATH 100 - College Algebra	3	**KSC 030**
Total Credits: 16		
Second Year		
Semester 1		
EDCI 200 - Teaching as a Career	1	
EDCI 230 - Early Field Experience	1	
GEOL 105 - Oceanography	3	
MATH 150 - Plane Trigonometry	3	
PSYCH 110 - General Psychology	3	**KSC 050**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 14		
Semester 2		
GEOG 121 - Introductory Physical Geography: Earth Systems Science	3	
GEOG 122 - Introduction to Physical Geography: Earth Systems Science Laboratory	1	
STAT 225 - Introduction to Statistics	3	
Social & Behavioral Science Course	3	**KSC 050**
Arts & Humanities Course	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Third Year		

Semester 1			
EDCI 315 - Educational Psychology	3		
EDCI 320 - Core Teaching Skills and Lab	3		
EDSP 323 - Exceptional Students in the Secondary School	2		
GEOL 502 - Mineralogy	3		
PHYS 109 - Astronomy	3		
Elective	3		
Total Credits: 14			
Semester 2			
EDCI 318 - Educational Technology for Teaching and Learning	1		
EDCI 405 - Middle-Level Education	2		
GEOL 510 - Geology of Planets	3		
GEOL 520 - Geomorphology	3		
PHYS 113 - General Physics I	4		
EDCI 764 - Engineering Design Practices in Secondary Science Teaching	3		
Total Credits: 16			
Fourth Year			
Semester 1			
EDSEC 455 - Teaching in a Multicultural Society	1		
EDSEC 477 - Content Area Literacies and Diverse Learners	2		
EDSEC 477 - Content Area Literacies and Diverse Learners	2		
EDSEC 542 - Science Methods for Secondary and Middle Schools	3		
EDSEC 543 - Science Methods Practicum	2		

EDSEC 614 - Laboratory Techniques in Teaching Science	3		
Total Credits: 12			
Semester 2			
EDSEC 586 - Teaching Internship in Secondary Schools	1-12		
Total Credits: 12			
Total Programs Hours: 120			

Educational Studies (BS) Academic Degree Map

First Year	Hours	K-State	
Semester 1			
EDCI 110 - Foundations of Education	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
PSYCH 110 - General Psychology	3	**KSC 050**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Elective			
Total Credits: 15			
Semester 2			
COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 200 - Expository Writing II	3	**KSC 010**	
Elective	3		
Elective	3		
Arts and Humanities Requirement	3	**KSC 060**	

Total Credits: 15			
Second Year			
Semester 1			
EDCI 200 - Teaching as a Career	1		
EDCI 230 - Early Field Experience	1		
Arts and Humanities Requirement	3	**KSC 060**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Elective	3		
Elective	3		
Total Credits: 14			
Semester 2			
Natural and Physical Sciences Requirement	4	**KSC 040**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Supporting Course 100+	3		
ED Studies Core 100+	3		
Total Credits: 16			
Third Year			
Semester 1			
ED Studies Core 300+	3		
ED Studies Core 300+	3		
Supporting Course 300+	3		

Elective	3		
Elective	3		
Total Credits: 15			
Semester 2			
Ed Studies Core 300+	3		
Elective			
Supporting Course 100+	3		
Supporting Course 100+	3		
Supporting Course 300+	3		
Total Credits: 15			
Fourth Year			
Semester 1			
EDCI 315 - Educational Psychology	3		
EDCI 318 - Educational Technology for Teaching and Learning	1		
EDCI 320 - Core Teaching Skills and Lab	3		
EDSP 224 - Exceptional Child in the Regular Classroom **OR**	3		
EDSP 323 - Exceptional Students in the Secondary School	2		
Supporting Course 300+	3		
Supporting Course 300+	3		
Total Credits: 15			
Semester 2			
EDACE 714 - International Education **OR**	3		

EDACE 780 - Introduction to Adult Learning and Leadership	3		
EDCI 550 - Schooling and Popular Culture	3		
EDCI 580 - Internship in Educational Studies	6-9		
Supporting Course 300+	3		
Total Credits: 15			
Total Program Hours: 120			

Elementary Education (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
COMM 106 - Public Speaking I	3	**KSC 020**	
EDCI 110 - Foundations of Education	3		
HDFS 110 - Introduction to Human Development	3		
HIST 151 - History of the United States to 1877 **OR**	3	**KSC 060**	
HIST 152 - History of the United States Since 1877	3	**KSC 060**	
Total Credits: 15			
Semester 2			
ENGL 200 - Expository Writing II	3	**KSC 010**	
AMETH 160 - Introduction to American Ethnic Studies **OR**	3		
POLSC 110 - Introduction to Political Science	3		
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Arts and Humanities Requirement	3	**KSC 060**	

Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Second Year		
Semester 1		
BIOL 101 - Concepts of Biology	4	**KSC 040**
ENGL 355 - Literature for Children	3	
PSYCH 110 - General Psychology	3	**KSC 050**
GEOG 100 - World Geography & Globalization	3	**KSC 050**
EDEL 250 - Health and Movement Education in Elementary Classrooms	2	
Total Credits: 15		
Semester 2		
EDCI 318 - Educational Technology for Teaching and Learning	1	
EDCI 200 - Teaching as a Career	1	
EDCI 230 - Early Field Experience	1	
PHYS 106 - Concepts of Physics	4	
EDSP 224 - Exceptional Child in the Regular Classroom	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Free Electives	2	
Total Credits: 15		
Third Year		
Semester 1		
EDCI 315 - Educational Psychology	3	

EDCI 320 - Core Teaching Skills and Lab	3		
EDCI 400 - New Literacies in Contemporary Classrooms	3		
EDEL 412 - Teaching Science: PK-6	3		
EDEL 414 - Teaching Culturally and Linguistically Diverse Learners	3		
Total Credits: 15			
Semester 2			
EDEL 410 - Block B Practicum: K-6	2		
EDEL 411 - Science of Reading I	3		
EDEL 413 - Classroom Assessment: PK-6	1		
EDEL 415 - Teaching Methods for Mathematics, PK-2	3		
MUSIC 205 - Music for Elementary Teachers	3		
EDEL 465 - Teaching Methods for Mathematics, Grades 3-6	3		
Total Credits: 15			
Semester 3			
EDEL 270 - Arts for Elementary Schools	3		
Total Credits: 3			
Fourth Year			
Semester 1			
EDEL 460 - Block C Practicum: K-6	2		
EDEL 461 - Science of Reading II	3		
EDEL 462 - Teaching Social Studies: K-6	3		
EDEL 464 - Classroom Management and Discipline: PK-6	1		

EDEL 466 - Supporting Elementary Learners in Reading and Math, Grades PK-6	3		
EDEL 467 - Teaching Methods for STEAM, PK-6	3		
Total Credits: 15			
Semester 2			
EDEL 585 - Teaching Internship in Elementary School	1-15		
Total Credits: 12			
Total Program Hours: 120			

English and Journalism Education (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
EDCI 110 - Foundations of Education	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
MC 110 - Mass Communication in Society	3		
PSYCH 110 - General Psychology	3	**KSC 050**	
Total Credits: 15			
Semester 2			
COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 200 - Expository Writing II	3	**KSC 010**	
ENGL 310 - Introduction to Literary Studies	3		
MC 130 - Writing Conventions and Mechanics	1		

MC 131 - Elements of Media Writing	1		
MC 132 - Writing Styles and Audiences	1		
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Second Year			
Semester 1			
EDCI 200 - Teaching as a Career	1		
EDCI 230 - Early Field Experience	1		
ENGL 361 - British Survey I **OR**	3		
MC 160 - Principles of Journalism	3		
Arts and Humanities Requirement	3	**KSC 060**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Elective	1		
Total Credits: 15			
Semester 2			
ENGL 381 - American Survey I **OR**	3		
ENGL 382 - American Survey II	3		
MC 200 - News Reporting and Writing Across Platforms	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Natural and Physical Sciences Requirement	4	**KSC 040**	
Total Credits: 16			

Third Year			
Semester 1			
EDCI 315 - Educational Psychology	3		
EDCI 320 - Core Teaching Skills and Lab	3		
EDSP 323 - Exceptional Students in the Secondary School	2		
ENGL 435 - Linguistics for Teachers of English	3		
ENGL 545 - Literature for Adolescents	3		
MC 301 - Photo & Video Storytelling	3		
Total Credits: 17			
Semester 2			
EDCI 318 - Educational Technology for Teaching and Learning	1		
EDCI 405 - Middle-Level Education	2		
MC 331 - Photography Commercial Imaging	3		
MC 340 - Editing for Print and Online Media	3		
MC 466 - Media Law and Ethics	3		
World Literature Course	3		
Total Credits: 15			
Fourth Year			
Semester 1			
EDSEC 455 - Teaching in a Multicultural Society	1		
EDSEC 477 - Content Area Literacies and Diverse Learners	2		
EDSEC 525 - Interpersonal Relations in the Schools	1		
EDSEC 536 - Language Arts Methods for Secondary and Middle Schools	3		

EDSEC 537 - Language Arts Methods Practicum	2		
ENGL 350 - Introduction to Shakespeare	3		
MC 605 - Supervision of School Publications	3		
Total Credits: 15			
Semester 2			
EDSEC 586 - Teaching Internship in Secondary Schools	1-12		
Total Credits: 12			
Total Program Hours: 120			

Journalism Education (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
EDCI 110 - Foundations of Education	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
MC 110 - Mass Communication in Society	3		
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
PSYCH 110 - General Psychology	3	**KSC 050**	
Total Credits: 15			
Semester 2			
COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 200 - Expository Writing II	3	**KSC 010**	
MC 120 - Principles of Advertising	3		

MC 130 - Writing Conventions and Mechanics	1		
MC 131 - Elements of Media Writing	1		
MC 132 - Writing Styles and Audiences	1		
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Second Year			
Semester 1			
EDCI 200 - Teaching as a Career	1		
EDCI 230 - Early Field Experience	1		
MC 160 - Principles of Journalism	3		
Arts & Humanities Requirement	3	**KSC 060**	
Natural & Physical Sciences Requirement	4	**KSC 040**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Semester 2			
MC 180 - Principles of Public Relations	3		
MC 191 - Audio Essentials	1		
MC 192 - Photography Essentials	1		
MC 193 - Video Production Essentials	1		
MC 194 - Social Media Essentials	1		
MC 195 - Creative Design	1		
MC 196 - Content Management for Distribution	1		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	

Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 15			
Third Year			
Semester 1			
EDCI 315 - Educational Psychology	3		
EDCI 320 - Core Teaching Skills and Lab	3		
EDSP 323 - Exceptional Students in the Secondary School	2		
MC 200 - News Reporting and Writing Across Platforms	3		
MC 301 - Photo & Video Storytelling	3		
Elective	3		
Total Credits: 17			
Semester 2			
EDCI 318 - Educational Technology for Teaching and Learning	1		
EDCI 405 - Middle-Level Education	2		
MC 331 - Photography Commercial Imaging	3		
MC 340 - Editing for Print and Online Media	3		
MC 406 - Multiplatform News Reporting	3		
MC 466 - Media Law and Ethics	3		
Total Credits: 15			
Fourth Year			
Semester 1			
EDSEC 455 - Teaching in a Multicultural Society	1		

EDSEC 477 - Content Area Literacies and Diverse Learners	2		
EDSEC 525 - Interpersonal Relations in the Schools	1		
EDSEC 536 - Language Arts Methods for Secondary and Middle Schools	3		
EDSEC 537 - Language Arts Methods Practicum	2		
MC 605 - Supervision of School Publications	3		
Elective	4		
Total Credits: 16			
Semester 2			
EDSEC 586 - Teaching Internship in Secondary Schools	1-12		
Total Credits: 12			
Total Program Hours: 120			

Mathematics Education (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
EDCI 110 - Foundations of Education	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
STAT 225 - Introduction to Statistics	3	
PSYCH 110 - General Psychology	3	**KSC 050**
Total Credits: 16		

Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 221 - Analytic Geometry and Calculus II	4	
Arts & Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Second Year		
Semester 1		
EDCI 200 - Teaching as a Career	1	
EDCI 230 - Early Field Experience	1	
MATH 222 - Analytic Geometry and Calculus III	4	
MATH 312 - Finite Applications of Mathematics	3	
Natural & Physical Sciences Requirement - with Lab	4	**KSC 040**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
CIS 115 - Introduction to Computing Science	2	
MATH 340 - Elementary Differential Equations	4	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
MATH Elective	3	
Total Credits: 15		

Third Year			
Semester 1			
EDCI 318 - Educational Technology for Teaching and Learning	1		
EDCI 405 - Middle-Level Education	2		
MATH 511 - Introduction to Algebraic Systems	3		
MATH Elective - Recommend EDCI 729	3		
Elective	3		
Elective	3		
Total Credits: 15			
Semester 2			
EDCI 315 - Educational Psychology	3		
EDCI 320 - Core Teaching Skills and Lab	3		
EDSP 323 - Exceptional Students in the Secondary School	2		
MATH 570 - History of Mathematics	3		
Elective	3		
Total Credits: 14			
Fourth Year			
Semester 1			
EDSEC 455 - Teaching in a Multicultural Society	1		
EDSEC 477 - Content Area Literacies and Diverse Learners	2		
EDSEC 525 - Interpersonal Relations in the Schools	1		
EDSEC 538 - Mathematics Methods for Secondary and Middle Schools	3		

EDSEC 539 - Mathematics Methods Practicum	2		
MATH 572 - Foundations of Geometry	3		
Elective	3		
Total Credits: 15			
Semester 2			
EDSEC 586 - Teaching Internship in Secondary Schools	1-12		
Total Credits: 12			
Total Program Hours: 120			

Modern Languages Education - Chinese (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
CHINE 101 - Chinese I	4		
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
PSYCH 110 - General Psychology	3		
EDCI 110 - Foundations of Education	3		
Total Credits: 16			
Semester 2			
CHINE 200 - Chinese II	4		
COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 200 - Expository Writing II	3	**KSC 010**	

Arts & Humanities Requirement	3	**KSC 060**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Second Year		
Semester 1		
CHINE 201 - Chinese III	4	
EDCI 200 - Teaching as a Career	1	
EDCI 230 - Early Field Experience	1	
HIST 504 - Intellectual History of Early China	3	
Arts & Humanities Requirement	3	**KSC 060**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Semester 2		
CHINE 301 - Chinese IV	4	
HIST 507 - China Since 1644	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Natural & Physical Sciences Requirement	4	**KSC 040**
Total Credits: 14		
Third Year		
Semester 1		
CHINE 501 - Chinese V	3	
EDCI 315 - Educational Psychology	3	

EDCI 320 - Core Teaching Skills and Lab	3		
EDSP 323 - Exceptional Students in the Secondary School	2		
Chinese Elective 500+	3		
Total Credits: 14			
Semester 2			
CHINE 502 - Chinese VI	3		
EDEL 620 - Foreign Language Elementary School Methods	3		
EDEL 621 - Foreign Language Elementary School Practicum	1		
EDCI 318 - Educational Technology for Teaching and Learning	1		
HIST 508 - Introduction to Modern East Asia	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 14			
Fourth Year			
Semester 1			
CHINE 599 - Special Studies in Chinese	0-18		
EDSEC 455 - Teaching in a Multicultural Society	1		
EDSEC 477 - Content Area Literacies and Diverse Learners	2		
EDSEC 525 - Interpersonal Relations in the Schools	1		
EDSEC 540 - Modern Language Methods for Secondary and Middle Schools	3		
EDSEC 541 - Modern Language Methods Practicum	2		
POLSC 511 - Contemporary Chinese Politics	3		
Total Credits: 15			

Semester 2			
EDEL 585 - Teaching Internship in Elementary School	1-15		
EDSEC 586 - Teaching Internship in Secondary Schools	1-12		
Total Credits: 12			
Total Program Hours: 120			

Modern Languages Education - French (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
EDCI 110 - Foundations of Education	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
FREN 301 - French IV	3		
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
PSYCH 110 - General Psychology	3		
Total Credits: 15			
Semester 2			
COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 200 - Expository Writing II	3	**KSC 010**	
FREN 301 - French IV	3		
Arts & Humanities Requirement	3	**KSC 060**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 15			

Second Year		
Semester 1		
EDCI 200 - Teaching as a Career	1	
EDCI 230 - Early Field Experience	1	
FREN 520 - Introduction to French Literature (19th Century to the Present)	3	
Arts & Humanities Requirement	3	**KSC 060**
Natural & Physical Sciences Requirement - with Lab	4	**KSC 040**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
FREN 521 Introduction to French Literature (Medieval to 18th Century)	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Elective	3	
Choose 1 course - FREN 501, FREN 503, FREN 514, FREN 515, FREN 517, FREN 518, FREN 519, FREN 530	3	
Total Credits: 15		
Third Year		
Semester 1		
EDCI 315 - Educational Psychology	3	
EDCI 318 - Educational Technology for Teaching and Learning	1	
EDCI 320 - Core Teaching Skills and Lab	3	
EDSP 323 - Exceptional Students in the Secondary School	2	

Choose two courses - FREN 501, FREN 503, FREN 514, FREN 515, FREN 517, FREN 518, FREN 519, FREN 530	6		
Total Credits: 15			
Semester 2			
EDEL 620 - Foreign Language Elementary School Methods	3		
EDEL 621 - Foreign Language Elementary School Practicum	1		
Elective	8		
Choose two courses - FREN 709, FREN 710, FREN 711, FREN 713, FREN 715, FREN 716, FREN 719, FREN 720, FREN 721, FREN 743, FREN 799	6		
Total Credits: 18			
Fourth Year			
Semester 1			
EDSEC 455 - Teaching in a Multicultural Society	1		
EDSEC 477 - Content Area Literacies and Diverse Learners	2		
EDSEC 525 - Interpersonal Relations in the Schools	1		
EDSEC 540 - Modern Language Methods for Secondary and Middle Schools	3		
EDSEC 541 - Modern Language Methods Practicum	2		
Choose 1 course - FREN 709, FREN 710, FREN 711, FREN 713, FREN 715, FREN 716, FREN 719, FREN 720, FREN 721, FREN 743, FREN 799	3		
Elective	3		
Total Credits: 15			
Semester 2			
EDEL 585 - Teaching Internship in Elementary School	1-15		
EDSEC 586 - Teaching Internship in Secondary Schools	1-12		

Total Credits: 12			
Total Program Hours: 120			

Modern Languages Education - German (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
EDCI 110 - Foundations of Education	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
GRMN 201 - German III	3	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
PSYCH 110 - General Psychology	3	
Total Credits: 15		
Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 200 - Expository Writing II	3	**KSC 010**
GRMN 301 - German IV	3	
Arts & Humanities Requirement	3	**KSC 060**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Second Year		
Semester 1		

EDCI 200 - Teaching as a Career	1	
EDCI 230 - Early Field Experience	1	
GRMN 521 - Introductory Topics in German Literature and Culture of the 18th and 19th century	3	
Arts & Humanities Requirement	3	**KSC 060**
Natural & Physical Sciences Requirment	4	**KSC 040**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
GRMN 522 - Introductory Topics in German Literature and Culture of the 20th and 21st century	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Elective	3	
GRMN Elective 200+Level	3	
Total Credits: 15		
Third Year		
Semester 1		
EDCI 315 - Educational Psychology	3	
EDCI 318 - Educational Technology for Teaching and Learning	1	
EDCI 320 - Core Teaching Skills and Lab	3	
EDSP 323 - Exceptional Students in the Secondary School	2	
Choose two courses - GRMN 503, GRMN 510, GRMN 515, GRMN 523, GRMN 527, GRMN 529, GRMN 530	6	
Total Credits: 15		

Semester 2		
EDEL 620 - Foreign Language Elementary School Methods	3	
EDEL 621 - Foreign Language Elementary School Practicum	1	
Choose two courses - GRMN 701, GRMN 702, GRMN 703, GRMN 704, GRMN 705, GRMN 731, GRMN 740	6	
Elective	3	
Elective	5	
Total Credits: 18		
Fourth Year		
Semester 1		
EDSEC 455 - Teaching in a Multicultural Society	1	
EDSEC 477 - Content Area Literacies and Diverse Learners	2	
EDSEC 525 - Interpersonal Relations in the Schools	1	
EDSEC 540 - Modern Language Methods for Secondary and Middle Schools	3	
EDSEC 541 - Modern Language Methods Practicum	2	
Choose 1 course - GRMN 701, GRMN 702, GRMN 703, GRMN 704, GRMN 705, GRMN 731	3	
Elective	3	
Total Credits: 15		
Semester 2		
EDSEC 586 - Teaching Internship in Secondary Schools	1-12	
EDEL 585 - Teaching Internship in Elementary School	1-15	
Total Credits: 12		
Total Program Hours: 120		

Modern Languages Education - Japanese (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
EDCI 110 - Foundations of Education	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
JAPAN 101 - Japanese I	4	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
PSYCH 110 - General Psychology	3	
Total Credits: 16		
Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 200 - Expository Writing II	3	**KSC 010**
JAPAN 200 - Japanese II	4	
Arts & Humanities Requirement	3	**KSC 060**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Second Year		
Semester 1		
EDCI 200 - Teaching as a Career	1	
EDCI 230 - Early Field Experience	1	
HIST 508 - Introduction to Modern East Asia	3	
JAPAN 201 - Japanese III	4	

Arts & Humanities Requirement	3	**KSC 060**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Semester 2		
JAPAN 301 - Japanese IV	4	
JAPAN 391 - Culture of Japanese Communication	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Natural & Physical Sciences Requirement	4	**KSC 040**
Total Credits: 15		
Third Year		
Semester 1		
EDCI 315 - Educational Psychology	3	
EDCI 320 - Core Teaching Skills and Lab	3	
EDSP 323 - Exceptional Students in the Secondary School	2	
JAPAN 501 - Japanese V	3	
JAPAN 500+	3	
Total Credits: 15		
Semester 2		
EDEL 620 - Foreign Language Elementary School Methods	3	
EDEL 621 - Foreign Language Elementary School Practicum	1	
HIST 509 - Japan Since 1550	3	
JAPAN 502 - Japanese VI	3	

Free Elective {Institutionally Designated Area}	3	**KSC 070**	
EDCI 318 - Educational Technology for Teaching and Learning	1		
Total Credits: 15			
Fourth Year			
Semester 1			
EDSEC 455 - Teaching in a Multicultural Society	1		
EDSEC 477 - Content Area Literacies and Diverse Learners	2		
EDSEC 525 - Interpersonal Relations in the Schools	1		
EDSEC 540 - Modern Language Methods for Secondary and Middle Schools	3		
EDSEC 541 - Modern Language Methods Practicum	2		
JAPAN 599 - Special Studies in Japanese	0-18		
Elective	3		
Total Credits: 15			
Semester 2			
EDEL 585 - Teaching Internship in Elementary School	1-15		
EDSEC 586 - Teaching Internship in Secondary Schools	1-12		
Total Credits: 12			
Total Program Hours: 120			

Modern Languages Education - Spanish (BS) Academic Degree Map

First Year	Hours	K-State Core	

Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
EDCI 110 - Foundations of Education	3	
SPAN 201 - Spanish III	3	
PSYCH 110 - General Psychology	3	
Total Credits: 15		
Semester 2		
ENGL 200 - Expository Writing II	3	**KSC 010**
COMM 106 - Public Speaking I	3	**KSC 020**
SPAN 301 - Spanish IV **OR**	3	
SPAN 302 - Spanish IV for Heritage Speakers	3	
Arts & Humanities Requirement	3	**KSC 060**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Second Year		
Semester 1		
EDCI 200 - Teaching as a Career	1	
EDCI 230 - Early Field Experience	1	
SPAN 410 - Spanish Communication through Pop Culture	3	
Arts & Humanities Requirement	3	**KSC 060**
Natural & Physical Sciences Requirement	4	**KSC 040**
Free Elective {Institutionally Designated Area}	3	**KSC 070**

Total Credits: 15		
Semester 2		
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Elective	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Choose two courses - SPAN 550, SPAN 560, SPAN 565, SPAN 566, SPAN 567, SPAN 568, SPAN 580	6	
Total Credits: 15		
Third Year		
Semester 1		
EDCI 315 - Educational Psychology	3	
EDCI 318 - Educational Technology for Teaching and Learning	1	
EDCI 320 - Core Teaching Skills and Lab	3	
EDSP 323 - Exceptional Students in the Secondary School	2	
Choose two courses - SPAN 550, SPAN 560, SPAN 565, SPAN 566, SPAN 567, SPAN 568, SPAN 580	6	
Total Credits: 15		
Semester 2		
EDEL 620 - Foreign Language Elementary School Methods	3	
EDEL 621 - Foreign Language Elementary School Practicum	1	
SPAN 700+	3	
SPAN 700+	3	
Elective	8	

Total Credits: 18			
Fourth Year			
Semester 1			
EDCI 405 - Middle-Level Education	2		
EDSEC 455 - Teaching in a Multicultural Society	1		
EDSEC 477 - Content Area Literacies and Diverse Learners	2		
EDSEC 525 - Interpersonal Relations in the Schools	1		
EDSEC 540 - Modern Language Methods for Secondary and Middle Schools	3		
EDSEC 541 - Modern Language Methods Practicum	2		
SPAN 700+	3		
Elective	3		
Total Credits: 15			
Semester 2			
EDEL 585 - Teaching Internship in Elementary School	1-15		
EDSEC 586 - Teaching Internship in Secondary Schools	1-12		
Total Credits: 12			
Total Program Hours: 120			

Physical Education/Health Education (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
EDCI 110 - Foundations of Education	3		

ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
EDSEC 360 - Introduction to Physical Education/Health	3	
BIOL 198 - Principles of Biology	4	
Total Credits: 16		
Semester 2		
ENGL 200 - Expository Writing II	3	**KSC 010**
COMM 106 - Public Speaking I	3	**KSC 020**
EDCI 301 - Coaching and Officiating Methodology	3	
PSYCH 110 - General Psychology	3	
KIN 220 - Biobehavioral Bases of Physical Activity	4	
Total Credits: 16		
Second Year		
Semester 1		
EDCI 200 - Teaching as a Career	1	
EDCI 230 - Early Field Experience	1	
FNDH 132 - Basic Nutrition	3	
EDCI 361 - PK-12 PE Motor Skills and Game Development	3	
HDFS 302 - Introduction to Human Sexuality	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 17		

Semester 2		
EDCI 318 - Educational Technology for Teaching and Learning	1	
EDCI 381 - PK-12 PE Assessment and Measurements	2	
One subject Area from the Approved Natural & Physical Sciences List	4	**KSC 040**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective	1	
Total Credits: 14		
Third Year		
Semester 1		
EDCI 315 - Educational Psychology	3	
EDCI 320 - Core Teaching Skills and Lab	3	
EDSP 323 - Exceptional Students in the Secondary School	2	
EDSEC 380 - Adaptive Physical Education	2	
EDCI 405 - Middle-Level Education	2	
KIN 320 - Motor Learning and Development	3	
Total Credits: 15		
Semester 2		
EDEL 520 - Physical Education/Health Methods for PK-6 Schools	3	
EDEL 521 - Physical Education/Health Practicum for PK-6 Schools	1	
FNDH 220 - Care and Prevention of Athletic Injuries	3	
KIN 380 - Principles of Exercise Training	3	
Free Elective {Institutionally Designated Area}	3	**KSc 070**

Kinesiology Elective	1	
Total Credits: 14		
Fourth Year		
Semester 1		
EDSEC 455 - Teaching in a Multicultural Society	1	
EDSEC 477 - Content Area Literacies and Diverse Learners	2	
EDSEC 525 - Interpersonal Relations in the Schools	1	
EDSEC 546 - Physical Education/Health Methods for Secondary and Middle Schools	3	
EDSEC 547 - Physical Education/Health Practicum for Secondary and Middle Schools	2	
FNDH 252 - Personal Wellness	3	
Arts & Humanities Requirement	3	**KSC 060**
Kinesiology Elective	1	
Total Credits: 16		
Semester 2		
EDEL 585 - Teaching Internship in Elementary School	1-15	
EDSEC 586 - Teaching Internship in Secondary Schools	1-12	
Total Credits: 12		
Total Program Hours: 120		

Physics Education (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**

Semester 1		
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
EDCI 110 - Foundations of Education	3	
PHYS 123 - Physics Today II	1	
PHYS 223 - Physics I, Mechanics, and Thermodynamics	5	**KSC 040**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 221 - Analytic Geometry and Calculus II	4	
PHYS 123 - Physics Today II	1	
PHYS 224 - Physics II, Electromagnetism, and Sound	5	
Total Credits: 16		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 222 - Analytic Geometry and Calculus III	4	
PSYCH 110 - General Psychology	3	
BIOL 198 - Principles of Biology	4	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 17		

Semester 2		
EDCI 200 - Teaching as a Career	1	
EDCI 230 - Early Field Experience	1	
MATH 340 - Elementary Differential Equations	4	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Third Year		
Semester 1		
EDCI 315 - Educational Psychology	3	
EDCI 320 - Core Teaching Skills and Lab	3	
EDSP 323 - Exceptional Students in the Secondary School	2	
PHYS 109 - Astronomy	3	
PHYS 325 - Physics III, Relativity, and Quantum Physics	4	
Total Credits: 15		
Semester 2		
EDCI 318 - Educational Technology for Teaching and Learning	1	
EDCI 405 - Middle-Level Education	2	
PHYS 506 - Advanced Physics Laboratory	4	
CHM 210 - Chemistry I	4	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 14		

Fourth Year		
Semester 1		
EDSEC 455 - Teaching in a Multicultural Society	1	
EDSEC 477 - Content Area Literacies and Diverse Learners	2	
EDSEC 525 - Interpersonal Relations in the Schools	1	
EDSEC 542 - Science Methods for Secondary and Middle Schools	3	
EDSEC 543 - Science Methods Practicum	2	
EDSEC 614 - Laboratory Techniques in Teaching Science	3	
EDCI 764 - Engineering Design Practices in Secondary Science Teaching	3	
Total Credits: 15		
Semester 2		
EDSEC 586 - Teaching Internship in Secondary Schools	1-12	
Total Credits: 12		
Total Program Hours: 120		

Social Studies Education (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
EDCI 110 - Foundations of Education	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
GEOG 100 - World Geography & Globalization	3	**KSC 050**
HIST 151 - History of the United States to 1877	3	**KSC 060**

MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Total Credits: 15		
Semester 2		
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 200 - Expository Writing II	3	**KSC 010**
HIST 152 - History of the United States Since 1877	3	
POLSC 115 - U.S. Politics	3	**KSC 050**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Second Year		
Semester 1		
EDCI 200 - Teaching as a Career	1	
EDCI 230 - Early Field Experience	1	
HIST 111 - World History to 1450	3	
POLSC 145 - World Politics	3	
Arts & Humanities Requirement	3	**KSC 060**
Natural & Physical Sciences Requirement - with Lab	4	**KSC 040**
Total Credits: 15		
Semester 2		
ECON 110 - Principles of Macroeconomics	3	
EDSEC 328 - Social Studies Colloquium I	1	
GEOG 121 - Introductory Physical Geography: Earth Systems Science	3	

GEOG 122 - Introduction to Physical Geography: Earth Systems Science Laboratory	1		
HIST 112 - World History From 1450	3		
SOCIO 211 - Introduction to Sociology	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 17			
Third Year			
Semester 1			
ANTH 204 - A General Education Introduction to Cultural Anthropology	3		
ECON 120 - Principles of Microeconomics	3		
EDSEC 428 - Social Studies Colloquium II	1		
GEOG 200 - Human Geography	3		
HIST 558 - History of Kansas	3		
POLSC 155 - Introduction to Political Thought	3		
Total Credits: 16			
Semester 2			
EDCI 315 - Educational Psychology	3		
EDCI 318 - Educational Technology for Teaching and Learning	1		
EDCI 320 - Core Teaching Skills and Lab	3		
EDCI 405 - Middle-Level Education	2		
EDSP 323 - Exceptional Students in the Secondary School	2		
Upper Level Social Studies	3		
Elective	1		
Total Credits: 15			

Fourth Year		
Semester 1		
EDSEC 455 - Teaching in a Multicultural Society	1	
EDSEC 477 - Content Area Literacies and Diverse Learners	2	
EDSEC 525 - Interpersonal Relations in the Schools	1	
EDSEC 528 - Social Studies Colloquium III	3	
EDSEC 544 - Social Studies Methods for Secondary and Middle Schools	3	
EDSEC 545 - Social Studies Methods Practicum	2	
Upper Level Social Studies Course	3	
Total Credits: 15		
Semester 2		
EDSEC 586 - Teaching Internship in Secondary Schools	1-12	
Total Credits: 12		
Total Program Hours: 120		

Speech Education (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
EDCI 110 - Foundations of Education	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
PSYCH 110 - General Psychology	3	**KSC 050**

THTRE 270 - Introduction to Theatre	3	**KSC 060**	
Total Credits: 15			
Semester 2			
COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 200 - Expository Writing II	3	**KSC 010**	
THTRE 171 - Fundamentals of Acting	3		
Arts & Humanities Requirement	3	**KSC 060**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Second Year			
Semester 1			
EDCI 200 - Teaching as a Career	1		
EDCI 230 - Early Field Experience	1		
MC 110 - Mass Communication in Society	3		
THTRE 263 - Oral Interpretation of Literature	3		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Natural & Physical Sciences Requirement - with Lab	4	**KSC 040**	
Total Credits: 15			
Semester 2			
COMM 321 - Advanced Public Speaking	3		
THTRE 211 - Run Crew - Concurrent with THTRE 369	0-2		
THTRE 280 - Script Analysis	3		

THTRE 369 - Fundamentals of Theatrical Design	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Natural & Physical Sciences Requirement	3		
Total Credits: 16			
Third Year			
Semester 1			
COMM 130 - Interpersonal Communication	3		
COMM 325 - Argumentation and Debate	3		
COMM 426 - Coaching and Directing Speech Activities	3		
THTRE 212 - Wardrobe Crew	1		
THTRE 269 - Fundamentals of Technical Production	3		
THTRE 572 - History of Theatre I **OR**	3		
THTRE 573 - History of Theatre II	3		
Total Credits: 16			
Semester 2			
COMM 326 - Group Communication	3		
COMM 330 - Rhetoric in Civic Life	3		
EDCI 315 - Educational Psychology	3		
EDCI 318 - Educational Technology for Teaching and Learning	1		
EDCI 320 - Core Teaching Skills and Lab	3		
EDCI 405 - Middle-Level Education	2		
EDSP 323 - Exceptional Students in the Secondary School	2		
Total Credits: 17			

Fourth Year			
Semester 1			
EDSEC 455 - Teaching in a Multicultural Society	1		
EDSEC 477 - Content Area Literacies and Diverse Learners	2		
EDSEC 525 - Interpersonal Relations in the Schools	1		
EDSEC 536 - Language Arts Methods for Secondary and Middle Schools	3		
EDSEC 537 - Language Arts Methods Practicum	2		
THTRE 565 - Principles of Directing	3		
Elective	3		
Total Credits: 14			
Semester 2			
EDSEC 586 - Teaching Internship in Secondary Schools	1-12		
Total Credits: 1-12			
Total Program Hours: 120			

Educational Leadership

Royce Ann Collins, Chair

363 Bluemont Hall
785-532-5535
Fax: 785-532-7304
E-mail: edlea@k-state.edu
http://coe.k-state.edu/edlea/

Special Education, Counseling, and Student Affairs

Stephen Craig, Chair

363 Bluemont Hall
785-532-5541
Fax: 785-532-7304
E-mail: cep@k-state.edu
http://coe.k-state.edu/secsa/

The Department of Special Education, Counseling, and Student Affairs contributes to the undergraduate teacher preparation program through its offerings in educational psychology, interpersonal relations in schools, and special education. Studies in special education accommodate students who wish to specialize in teaching children and youth with certain exceptionalities. Students must complete an undergraduate teacher education program leading to licensure for either elementary or secondary school teaching. Program focus is to work with students with adaptive and functional disabilities at the elementary and secondary levels.

Special Education Endorsement Options:

Elementary Special Education QuickStart Program

Secondary Special Education StepAhead Program

College of Engineering

Carl R. Ice College of Engineering

Brad Kramer, Interim Dean
Keith Hohn, Associate Dean for Academic and Administrative Affairs
Stacy Hutchinson, Associate Dean for Research and Graduate Programs
Andy Fund, Assistant Dean for Student Services
Craig Wanklyn, Assistant Dean for Recruitment
Amy Betz, Assistant Dean for Retention, Diversity, and Inclusion

1046 Rathbone Hall
785-532-5590
engineering@k-state.edu
engg.k-state.edu

For information regarding current degrees and degree program accreditation, please see the individual program links available through the Carl R. Ice College of Engineering undergraduate programs website.

A course of study leading to a degree from the College of Engineering provides a well-rounded university education and equips students with a broad theoretical and practical background to meet the new and demanding problems of our technological society.

Admissions

Applicants must first be admitted to Kansas State University either as an incoming freshman or a transfer student. Admission to the College of Engineering is selective. Declaration of the desired curriculum in the College of Engineering does not guarantee admission into the degree program selected. For current admission criteria please refer to the College of Engineering admissions website.

Students not admitted to the College of Engineering can enter the K-State's Open Option program or another available college/degree program. These students can still apply to enter the College of Engineering at a later date as an internal transfer

student after they have completed one full-time semester at K-State. Please see the internal transfer student requirements on the College of Engineering website.

Grade requirements

In addition to the university standards and policies for grades, the College of Engineering has the following standards:

Curricula grades

See the individual engineering department websites for the grade requirements for their curricula. All courses applied to degree requirements require a letter grade except for 0-credit hour assembly courses.

Transferability of courses

Transfer courses with grades of pass/fail and credit/no-credit are not accepted by the College of Engineering. Transfer courses with grades less than C are also not accepted by the College of Engineering except for courses that fulfill K-State Core general education requirements. Even then, if the grade is below a C, the course may not meet departmental standards and will need to be retaken before enrolling in advanced coursework. For information on the transferability of courses to K-State, please consult the K-State website. For questions regarding this policy please contact Engineering Student Services.

Architectural Engineering and Construction Science

GE Johnson Department of Architectural Engineering and Construction Science

241 Seaton Hall
785-532-5964
arecns@k-state.edu
are-cns.k-state.edu

Architectural Engineering

The architectural engineering curriculum prepares entry-level engineers for the consulting engineering field who are well-grounded in the engineering specialties, have an understanding of how the building is designed and built, and know how the structural, mechanical and electrical engineering systems fit into the building. The program integrates a traditional engineering program with building systems courses. This course of study provides the theoretical tools required for engineering design and the ability to apply these tools to architectural structures to provide a completely functional building.

Construction Science and Management

The construction science and management program prepares graduates to be a professional constructor, a competent manager of resources that include labor, material, equipment, time and money to meet project expectations of quality, safety, scheduling and cost. The program is an engineering-based management program and is designed to produce technically competent managers of the construction process.

Bachelor of Science

Architectural Engineering (BS)

The Bachelor of Science (B.S.) in architectural engineering at Kansas State University is accredited by the Accreditation Commission of ABET, http://www.abet.org, under the commission's General Criteria and Program Criteria for Architectural and Similarly Named Engineering Programs.

The architectural engineering program is planned for students who are particularly interested in the engineering aspects of building design. The educational objective of the five-year architectural engineering program is to prepare the student with fundamental engineering competence in the analysis and design of building and their systems. Specifically, the student must be able to understand and apply engineering fundamentals and design principles for engineering the infrastructure of architecture--that infrastructure being structural, mechanical, and electrical building systems and all the subdisciplines related to these primary designations.

As important members of building design teams, they must be able to create designs that will fulfill the economic, safety, and aesthetic requirements of a project.

Included in the academic program are exercises in many of the courses beginning in the freshman year and continuing through the fourth year to develop skills in the engineering design process. The last course in this sequence is Capstone, a culmination of all the previous design experiences from the first three and one-half years of the curriculum. Architectural engineers must have a working ability with total building and system design concepts.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science Requirements: (21 credit hours)

CHM 210 - Chemistry I **Credits:** 4
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
KSC-030
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4

MATH 340 - Elementary Differential Equations **Credits:** 4
PHYS 213 - Engineering Physics I **Credits:** 5
KSC-040
PHYS 214 - Engineering Physics II **Credits:** 5

Architectural Engineering Requirements: (56 credit hours)

ARE 010 - ARE New Student 1st Year Workshop 1 **Credits:** 0
ARE 012 - ARE New Student 1st Year Workshop 2 **Credits:** 0
ARE 295 - Introduction to Building Systems **Credits:** 3
ARE 421 - Plan Reading & Systems Communications **Credits:** 3
ARE 521 - Computer Aided Architectural Engineering **Credits:** 2
ARE 551 - Electrical Systems I **Credits:** 3
ARE 552 - Mechanical Systems I **Credits:** 3
ARE 553 - Structural Systems I **Credits:** 3
ARE 561 - Electrical Systems II **Credits:** 3
ARE 562 - Mechanical Systems II **Credits:** 3
ARE 563 - Structural Systems II **Credits:** 3
ARE 571 - Systems Integration and Design **Credits:** 3
ARE 671 - ARE Capstone **Credits:** 4
CE 333 - Statics **Credits:** 3
CE 533 - Mechanics of Materials **Credits:** 3
CE 534 - Mechanics of Materials Laboratory **Credits:** 1
CE 537 - Introduction to Structural Analysis **Credits:** 3
CNS 210 - Graphic Communication I **Credits:** 1
CNS 220 - Construction Materials **Credits:** 2
CNS 321 - Graphic Communications II **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
ME 512 - Dynamics **Credits:** 3
ME 513 - Thermodynamics I **Credits:** 3

Restricted Electives: (15 credit hours)

Design, Engineering, and Complimentary electives are to be selected from the current approved department list located on the ARE/CNS website: https://are-cns.k-state.edu//

Design Electives	9 - 12 credits
Engineering Electives	3 - 6 credits
Complimentary Elective	0 - 3 credits

Notes

A letter grade of C or better is required for all prerequisite courses prior to taking subsequent departmental prefix courses. A letter grade of C or better is required for all graded departmental prefix courses applied to the degree.

*Design Electives are to be selected from the current approved Department list. Minimum 9 hours, maximum 12 hours required.

**Engineering Electives are to be selected from the current approved Department list. Minimum 3 hours, maximum 6 hours required.

***Complementary Electives are to be selected from the approved department list: minimum 0 hours, maximum 3 hours required.

A degree requirement for the Bachelor of Science in Architectural Engineering includes taking the NCEES FE Exam and reporting individual passing or non-passing results. This action is required as a course completion requirement for ARE 671, ARE Capstone. Failure to provide the required information will result in a failing grade for ARE 671 and non-completion of the degree.

Total Hours Required for Graduation: 128

Construction Science and Management (BS)

Accredited by the American Council for Construction Education
300 Decker Drive, Suite 330
Irving, Texas 75062
Phone: 972-600-8800
www.acce-hq.org

The construction science and management program prepares students to be professional constructors and managers of personnel resources, financial resources, materials, and machines. The curriculum is an engineering based management program designed to produce technically competent managers of construction. Entering students should have a background in mathematics and physics.

The program prepares graduates to execute the designs created by engineers and architects. Graduates may enter fields of general, commercial, residential, heavy and highway, utility, mechanical, or electrical construction. Their education provides the fundamental engineering and management skills necessary for success in any of the above areas.

Constructors work in many settings. For example, as a principal in a small construction firm, a constructor may engage in many of the activities in management, whereas a constructor in a large firm may concentrate exclusively on only one or two of the activities. Most students in the program intend to enter building, heavy/highway, or utility construction fields. Other roles, such as construction education, will normally require an advanced degree and/or professional experience.

Through construction education, students attain a level of construction knowledge that would otherwise require decades of practical experience to develop. With this level of knowledge, graduates typically move rapidly into upper management positions in construction organizations.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional

general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Construction Science and Management

Math and Science: (3 credit hours)

If not met through K-State Core requirements, PHYS 113 is required.

The curriculum for this major assumes students enter college prepared to take Trigonometry.

MATH 150 - Plane Trigonometry **Credits:** 3
KSC-030
PHYS 113 - General Physics I **Credits:** 4 **KSC 040**

Major Requirements: (82 credit hours)

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
CE 212 - Elementary Surveying Engineering **Credits:** 3
CNS 010 - CNS New Student 1st Year Workshop 1 **Credits:** 0
CNS 012 - CNS New Student 1st Year Workshop 2 **Credits:** 0
CNS 200 - Computer Applications in Engineering and Construction **Credits:** 2
CNS 231 - Statics A **Credits:** 3
CNS 241 - Strength of Materials and Analysis **Credits:** 3
CNS 242 - Strength of Materials Lab **Credits:** 1
CNS 310 - Introduction to Building Information Modeling **Credits:** 2
CNS 321 - Graphic Communications II **Credits:** 3
CNS 325 - Construction Documents **Credits:** 3
CNS 330 - Site Construction **Credits:** 3
CNS 440 - Construction Methods and Equipment **Credits:** 3
CNS 510 - Technology for Management of the Construction Process **Credits:** 2
CNS 524 - Steel and Timber Construction **Credits:** 3
CNS 528 - Concrete and Masonry Construction **Credits:** 3
CNS 534 - Heating and Air Conditioning **Credits:** 3
CNS 535 - Electrical and Lighting **Credits:** 3
CNS 536 - Water Supply and Plumbing **Credits:** 3
CNS 542 - Ethics and Professional Standards **Credits:** 1
CNS 550 - Construction Safety **Credits:** 2
CNS 641 - Construction Estimating **Credits:** 3
CNS 642 - Construction Management **Credits:** 3
CNS 643 - Preconstruction Services/Design Build **Credits:** 3
CNS 645 - Construction Scheduling and Cost Control **Credits:** 3
CNS 646 - Construction Financial Management **Credits:** 2
CNS 660 - Construction Operations **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
ECON 110 - Principles of Macroeconomics **Credits:** 3 **KSC 050**

ENGL 417 - Written Communication for the Workplace **Credits:** 3
MANGT 220 - Principles of Management **Credits:** 3
MANGT 230 - Business Law I **Credits:** 3
MANGT 530 - Labor Relations and Negotiations **Credits:** 3

Restricted Electives: (1-4 credit hours)

Professional Electives are to be selected from the current approved Departmental list.

Notes

A letter grade of C or better is required for all prerequisite courses prior to taking subsequent departmental prefix courses. A letter grade of C or better is required for all graded departmental prefix courses applied to the degree program.

Social and Behavioral Science Electives are to be selected from the K-State Core topic 5 requirements for General Education.

Arts and Humanities Electives are to be selected from the K-State Core topic 6 requirements for General Education.

Free Electives are to be selected from the K-State Core topic 7 requirements for General Education.

Professional Electives are to be selected from current, approved Departmental lists.

+ MATH 220 Analytical Geometry and Calculus I may substitute for MATH 150.

Total Hours Required for Graduation: 120

Other Program Choices

Architectural Engineering (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ARE 010 - ARE New Student 1st Year Workshop 1	0	
DEN 160 - College of Engineering Orientation	1	
ENGL 100 - Expository Writing I	3	**KSC 010**
COMM 106 - Public Speaking I	3	**KSC 020**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Arts and Humanities Elective	4	**KSC 060**

Total Credits: 14		
Semester 2		
ARE 012 - ARE New Student 1st Year Workshop 2	0	
CNS 210 - Graphic Communication I	1	
CNS 220 - Construction Materials	2	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 221 - Analytic Geometry and Calculus II	4	
PHYS 213 - Engineering Physics I	5	**KSC 040**
Total Credits: 15		
Second Year		
Semester 1		
ARE 295 - Introduction to Building Systems	3	
CE 333 - Statics	3	
MATH 222 - Analytic Geometry and Calculus III	4	
PHYS 214 - Engineering Physics II	5	
Total Credits: 15		
Semester 2		
CE 533 - Mechanics of Materials	3	
CE 534 - Mechanics of Materials Laboratory	1	
CNS 321 - Graphic Communications II	3	
MATH 340 - Elementary Differential Equations	4	
ME 513 - Thermodynamics I	3	

Social and Behavioral Science Elective	3	**KSC 050**
Total Credits: 17		
Third Year		
Semester 1		
ARE 551 - Electrical Systems I	3	
ARE 552 - Mechanical Systems I	3	
ARE 553 - Structural Systems I	3	
CE 537 - Introduction to Structural Analysis	3	
CHM 210 - Chemistry I	4	
Total Credits: 16		
Semester 2		
ARE 421 - Plan Reading & Systems Communications	3	
ARE 521 - Computer Aided Architectural Engineering	2	
ARE 561 - Electrical Systems II	3	
ARE 562 - Mechanical Systems II	3	
ARE 563 - Structural Systems II	3	
ME 512 - Dynamics	3	
Total Credits: 17		
Fourth Year		
Semester 1		
ARE 571 - Systems Integration and Design	3	
Design Elective	3	

Design Elective	3	
Engineering Elective	3	
Social and Behavioral Science Elective	3	**KSC 050**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 18		
Semester 2		
ARE 671 - ARE Capstone	4	
Design Elective	3	
Design/Engineering/Comp Elective	3	
Arts and Humanities Elective	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Total Programs Hours: 128		

Construction Science and Management (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Trigonometry.		
First Year	**Hours**	**K-State Core**
Semester 1		
CNS 010 - CNS New Student 1st Year Workshop 1	0	
DEN 160 - College of Engineering Orientation	1	
MATH 150 - Plane Trigonometry	3	**KSC 030**
ECON 110 - Principles of Macroeconomics	3	**KSC 050**
ENGL 100 - Expository Writing I	3	**KSC 010**

Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 13		
Semester 2		
CNS 012 - CNS New Student 1st Year Workshop 2	0	
CNS 220 - Construction Materials	2	
CE 212 - Elementary Surveying Engineering	3	
PHYS 113 - General Physics I	4	**KSC 040**
ENGL 200 - Expository Writing II	3	**KSC 010**
COMM 106 - Public Speaking I	3	**KSC 020**
Total Credits: 15		
Second Year		
Semester 1		
CNS 200 - Computer Applications in Engineering and Construction	2	
ACCTG 231 - Introduction to Managerial Accounting	3	
CNS 210 Graphic Communication I	1	
CNS 231 - Statics A	3	
MANGT 220 - Principles of Management	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Semester 2		
CNS 241 - Strength of Materials and Analysis	3	
CNS 242 - Strength of Materials Lab	1	

CNS 321 - Graphic Communications II	3	
CNS 330 - Site Construction	3	
MANGT 230 - Business Law I	3	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Third Year		
Semester 1		
CNS 310 - Introduction to Building Information Modeling	2	
CNS 325 - Construction Documents	3	
CNS 440 - Construction Methods and Equipment	3	
CNS 524 - Steel and Timber Construction	3	
CNS 535 - Electrical and Lighting	3	
CNS 550 - Construction Safety	2	
Total Credits: 16		
Semester 2		
CNS 542 - Ethics and Professional Standards	1	
CNS 641 - Construction Estimating	3	
CNS 642 - Construction Management	3	
CNS 645 - Construction Scheduling and Cost Control	3	
ENGL 417 - Written Communication for the Workplace	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		

Fourth Year		
Semester 1		
CNS 510 - Technology for Management of the Construction Process	2	
CNS 534 - Heating and Air Conditioning	3	
CNS 536 - Water Supply and Plumbing	3	
CNS 643 - Preconstruction Services/Design Build	3	
CNS 646 - Construction Financial Management	2	
Professional Elective	2	
Total Credits: 15		
Semester 2		
CNS 528 - Concrete and Masonry Construction	3	
CNS 660 - Construction Operations	3	
MANGT 530 - Labor Relations and Negotiations	3	
Professional Elective	2	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 14		
Total Program Hours: 120		

Biological and Agricultural Engineering

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Biological Systems Engineering

Biological systems engineers provide an essential link between the biological sciences and engineering, which uses physical, chemical and advanced biological sciences to solve practical problems. Biological systems engineers develop the techniques and processes to work with living systems, including microbes, plants and animals. They provide input to produce and process food, fiber, energy, chemical feedstock and pharmaceuticals. Engineering fundamentals are applied to achieve the goal of a safe and stable food and renewable energy supply while considering human and environmental factors. Three curriculum options are available: biological option, environmental option and machinery systems option.

Environmental Engineering

Environmental engineers design systems and solutions to sustain the quality of people's lives and the planet. As environmental challenges continue to develop, these professionals will increasingly be called upon to sustain food, water and energy supplies, curb climate change and adapt to its impact, reduce pollution and waste of natural resources, advance green manufacturing, develop resilient urban infrastructure systems and improve waste management practices. Environmental engineering integrates engineering fundamentals, mechanics and design principles with biology, earth sciences and chemistry to design solutions that improve the well-being of people and planet where the two intersect.

Agricultural Technology Management

The goal of the agricultural technology management program is to educate technology managers who can combine the critical understanding of agriculture and biological sciences with the problem-solving viewpoint of an engineer. The curriculum is intended for students who want a broader education than is provided by the engineering curriculum and who do not desire the analytical focus necessary in an engineering degree. Graduates fill key positions in food and agricultural industries, serving as technical managers for these increasingly vital sectors of the economy.

Bachelor of Science

Agricultural Technology Management - Agribusiness Management (BS)

Agricultural technology management emphasizes the application and integration of agricultural/biological sciences, agricultural engineered systems, and business to manage human and natural resources in the production and processing of biological products. It prepares students for technical management positions in biotechnology and agricultural industries that require an understanding of both technology and management. Agricultural technology management graduates are typically employed in technical sales, service, and management positions in agricultural production operations, agribusiness and processing industries, government agencies, and companies.

Courses are designed to apply physical science concepts and problem-solving to biological systems. Supporting courses provide a foundation of mathematics, chemistry, business, and computer and communication skills. Technical electives are available to develop a degree program that meets personal career objectives.

The Department of Biological and Agricultural Engineering administers the curriculum and leads to the Bachelor of Science degree in Agricultural Technology Management.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science: (11 credits)

BIOL 198 - Principles of Biology **Credits:** 4
CHM 210 - Chemistry I **Credits:** 4
MATH 205 - General Calculus **Credits:** 3
KSC-030
PHYS 113 - General Physics I **Credits:** 4
KSC-040
STAT 225 - Introduction to Statistics **Credits:** 3

ATM Program of Study: (26 credits)

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
ATM 160 - Engineered Systems and Technology in Agriculture **Credits:** 3
ATM 331 - Professional Practice for Agricultural Technology Managers **Credits:** 1
ATM 450 - Sensors and Controls for Agricultural and Biological Systems **Credits:** 3
ATM 536 - Agricultural Technology Management Capstone Project I **Credits:** 3
CC 110 - Introduction to Computing **Credits:** 2
CC 111 - Elements of Computer Programming **Credits:** 1
DEN 160 - College of Engineering Orientation **Credits:** 1
ECON 110 - Principles of Macroeconomics **Credits:** 3
OR
AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
MANGT 220 - Principles of Management **Credits:** 3
OR
AGEC 318 - Food and Agribusiness Management **Credits:** 3
OR
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
Choose 3 credits of a Graphics option from the list below:
CE 202 - Civil Engineering Graphics **Credits:** 3
GEOG 302 - Cartography and Thematic Mapping **Credits:** 3
GRSC 210 - CAD Flow Sheets for Grain Processes **Credits:** 3
ME 212 - Engineering Graphics **Credits:** 2
AND
BAE 250 - Solid Modeling **Credits:** 1

Restricted Electives: (49 credits)

bae.k-state.edu/academics/undergraduate/atm/atm-elective-lists.pdf

ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
AGRON 205 - Soils **Credits:** 3
ATM 511 - Agricultural Building Systems **Credits:** 3
ATM 558 - Hydrology and Soil Erosion Management **Credits:** 3
BAE 350 - Off Road Machinery Systems **Credits:** 2
BAE 351 - Machinery Systems Lab **Credits:** 1
FINAN 450 - Principles of Finance **Credits:** 3
OR
AGEC 513 - Agricultural Finance **Credits:** 3
MKTG 250 - Introduction to Marketing **Credits:** 3
OR
ATM/BAE Elective Hours
Technical Electives
Business Electives
AGEC 515 - Food and Agribusiness Marketing **Credits:** 3

Total Minimum Hours Required for Graduation: 120

Agricultural Technology Management - Biomanufacturing Technology (BS)

Agricultural technology management emphasizes the application and integration of agricultural/biological sciences, agricultural engineered systems, and business to manage human and natural resources in the production and processing of biological products. It prepares students for technical management positions in biotechnology and agricultural industries that require an understanding of both technology and management. Agricultural technology management graduates are typically employed in technical sales, service, and management positions in agricultural production operations, agribusiness and processing industries, government agencies, and companies.

Courses are designed to apply physical science concepts and problem solving to biological systems. Supporting courses provide a foundation of mathematics, chemistry, business, and computer and communication skills. Technical electives are available to develop a degree program that meets personal career objectives.

The Department of Biological and Agricultural Engineering administers the curriculum and leads to the Bachelor of Science degree in Agricultural Technology Management.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science: (11 credit hours)

BIOL 198 - Principles of Biology **Credits:** 4
CHM 110 - General Chemistry **Credits:** 3
MATH 205 - General Calculus **Credits:** 3
KSC-030
PHYS 113 - General Physics I **Credits:** 4
KSC-040
STAT 225 - Introduction to Statistics **Credits:** 3

ATM Program of Study: (26 credit hours)

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
ATM 160 - Engineered Systems and Technology in Agriculture **Credits:** 3
ATM 331 - Professional Practice for Agricultural Technology Managers **Credits:** 1
ATM 450 - Sensors and Controls for Agricultural and Biological Systems **Credits:** 3
ATM 536 - Agricultural Technology Management Capstone Project I **Credits:** 3
CC 110 - Introduction to Computing **Credits:** 2
CC 111 - Elements of Computer Programming **Credits:** 1
DEN 160 - College of Engineering Orientation **Credits:** 1
ECON 110 - Principles of Macroeconomics **Credits:** 3
OR
AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
MANGT 220 - Principles of Management **Credits:** 3
OR
AGEC 318 - Food and Agribusiness Management **Credits:** 3
OR
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
Choose 3 credits of a Graphics option from the list below:
CE 202 - Civil Engineering Graphics **Credits:** 3
GRSC 210 - CAD Flow Sheets for Grain Processes **Credits:** 3
GEOG 302 - Cartography and Thematic Mapping **Credits:** 3
ME 212 - Engineering Graphics **Credits:** 2
AND
OR
BAE 250 - Solid Modeling **Credits:** 1

Restricted Electives: (49 credit hours)

bae.k-state.edu/academics/undergraduate/atm/atm-elective-lists.pdf

ATM 245 - Introduction to Biomanufacturing Technology **Credits:** 3

ATM 345 - Cell Culture Technology in Biomanufacturing **Credits:** 3
ATM 511 - Agricultural Building Systems **Credits:** 3
ATM 545 - Processing and Storage of Grains **Credits:** 3
BAE 345 - Properties of Biological Materials **Credits:** 2
BAE 346 - Properties of Biological Materials Laboratory **Credits:** 1
BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
ATM/BAE Electives
Technical Electives
Business Electives
BIOL 255 - General Microbiology **Credits:** 4

Total Minimum Hours Required for Graduation: 120

Agricultural Technology Management - Precision Agriculture (BS)

Agricultural technology management emphasizes the application and integration of agricultural/biological sciences, agricultural engineered systems, and business to manage human and natural resources in the production and processing of biological products. It prepares students for technical management positions in biotechnology and agricultural industries that require an understanding of both technology and management. Agricultural technology management graduates are typically employed in technical sales, service, and management positions in agricultural production operations, agribusiness and processing industries, government agencies, and companies.

Courses are designed to apply physical science concepts and problem solving to biological systems. Supporting courses provide a foundation of mathematics, chemistry, business, and computer and communication skills. Technical electives are available to develop a degree program that meets personal career objectives.

The Department of Biological and Agricultural Engineering administers the curriculum and leads to the Bachelor of Science degree in Agricultural Technology Management.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science: (11 credit hours)

BIOL 198 - Principles of Biology **Credits:** 4
CHM 210 - Chemistry I **Credits:** 4
MATH 205 - General Calculus **Credits:** 3
KSC-030
PHYS 113 - General Physics I **Credits:** 4
KSC-040
STAT 225 - Introduction to Statistics **Credits:** 3

ATM Program of Study: (26 credit hours)

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
ATM 160 - Engineered Systems and Technology in Agriculture **Credits:** 3
ATM 331 - Professional Practice for Agricultural Technology Managers **Credits:** 1
ATM 450 - Sensors and Controls for Agricultural and Biological Systems **Credits:** 3
ATM 536 - Agricultural Technology Management Capstone Project I **Credits:** 3
CC 110 - Introduction to Computing **Credits:** 2
CC 111 - Elements of Computer Programming **Credits:** 1
DEN 160 - College of Engineering Orientation **Credits:** 1
ECON 110 - Principles of Macroeconomics **Credits:** 3
OR
AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
MANGT 220 - Principles of Management **Credits:** 3
OR
AGEC 318 - Food and Agribusiness Management **Credits:** 3
OR
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
Choose 3 credits of a Graphics option from the list below:
CE 202 - Civil Engineering Graphics **Credits:** 3
GEOG 302 - Cartography and Thematic Mapping **Credits:** 3
GRSC 210 - CAD Flow Sheets for Grain Processes **Credits:** 3
ME 212 - Engineering Graphics **Credits:** 2
OR
BAE 250 - Solid Modeling **Credits:** 1

Restricted Electives: (49 credit hours)

bae.k-state.edu/academics/undergraduate/atm/atm-elective-lists.pdf

AGRON 202 - Introduction to Precision Ag Software **Credits:** 3
AGRON 205 - Soils **Credits:** 3
AGRON 206 - Soils Laboratory **Credits:** 1
AGRON 655 - Site Specific Agriculture **Credits:** 3
ATM 550 - Precision Agriculture Technologies **Credits:** 3
ATM 558 - Hydrology and Soil Erosion Management **Credits:** 3
ATM 653 - Water Management and Irrigation Systems **Credits:** 2
ATM 654 - Water Management and Irrigation Systems Lab **Credits:** 1
BAE 350 - Off Road Machinery Systems **Credits:** 2
BAE 351 - Machinery Systems Lab **Credits:** 1
ATM/BAE Electives

Technical Electives
Business Electives

GEOG 508 - Geographic Information Systems I **Credits:** 4

Total Minimum Hours Required for Graduation: 120

Agricultural Technology Management - Production Agriculture (BS)

Agricultural technology management emphasizes the application and integration of agricultural/biological sciences, agricultural engineered systems, and business to manage human and natural resources in the production and processing of biological products. It prepares students for technical management positions in biotechnology and agricultural industries that require an understanding of both technology and management. Agricultural technology management graduates are typically employed in technical sales, service, and management positions in agricultural production operations, agribusiness and processing industries, government agencies, and companies.

Courses are designed to apply physical science concepts and problem solving to biological systems. Supporting courses provide a foundation of mathematics, chemistry, business, and computer and communication skills. Technical electives are available to develop a degree program that meets personal career objectives.

The Department of Biological and Agricultural Engineering administers the curriculum and leads to the Bachelor of Science degree in Agricultural Technology Management.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science: (11 credit hours)

BIOL 198 - Principles of Biology **Credits:** 4
CHM 210 - Chemistry I **Credits:** 4
MATH 205 - General Calculus **Credits:** 3
KSC-030
PHYS 113 - General Physics I **Credits:** 4
KSC-040

STAT 225 - Introduction to Statistics **Credits:** 3

ATM Program of Study: (26 credit hours)

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
ATM 160 - Engineered Systems and Technology in Agriculture **Credits:** 3
ATM 331 - Professional Practice for Agricultural Technology Managers **Credits:** 1
ATM 450 - Sensors and Controls for Agricultural and Biological Systems **Credits:** 3
ATM 536 - Agricultural Technology Management Capstone Project I **Credits:** 3
CC 110 - Introduction to Computing **Credits:** 2
CC 111 - Elements of Computer Programming **Credits:** 1
DEN 160 - College of Engineering Orientation **Credits:** 1
ECON 110 - Principles of Macroeconomics **Credits:** 3
OR
AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
MANGT 220 - Principles of Management **Credits:** 3
OR
AGEC 318 - Food and Agribusiness Management **Credits:** 3
OR
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
Choose 3 credits of a Graphics option from the List below:
CE 202 - Civil Engineering Graphics **Credits:** 3
GEOG 302 - Cartography and Thematic Mapping **Credits:** 3
GRSC 210 - CAD Flow Sheets for Grain Processes **Credits:** 3
ME 212 - Engineering Graphics **Credits:** 2
OR
BAE 250 - Solid Modeling **Credits:** 1

Restricted Electives: (49 credit hours)

bae.k-state.edu/academics/undergraduate/atm/atm-elective-lists.pdf

ATM 455 - Engines and Power Transfer **Credits:** 3
ATM 511 - Agricultural Building Systems **Credits:** 3
ATM 558 - Hydrology and Soil Erosion Management **Credits:** 3
BAE 350 - Off Road Machinery Systems **Credits:** 2
AGRON 205 - Soils **Credits:** 3
AGRON 206 - Soils Laboratory **Credits:** 1
BAE 351 - Machinery Systems Lab **Credits:** 1
IMSE 250 - Introduction to Manufacturing Processes and Systems **Credits:** 2
ATM/BAE Electives
Technical Electives
Business Electives
IMSE 251 - Manufacturing Processes Laboratory **Credits:** 1

Total Minimum Hours Required for Graduation: 120

Agricultural Technology Management - Water Management (BS)

Agricultural technology management emphasizes the application and integration of agricultural/biological sciences, agricultural engineered systems, and business to manage human and natural resources in the production and processing of biological products. It prepares students for technical management positions in biotechnology and agricultural industries that require an understanding of both technology and management. Agricultural technology management graduates are typically employed in technical sales, service, and management positions in agricultural production operations, agribusiness and processing industries, government agencies, and companies.

Courses are designed to apply physical science concepts and problem solving to biological systems. Supporting courses provide a foundation of mathematics, chemistry, business, and computer and communication skills. Technical electives are available to develop a degree program that meets personal career objectives.

The Department of Biological and Agricultural Engineering administers the curriculum and leads to the Bachelor of Science degree in Agricultural Technology Management.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science: (11 credit hours)

BIOL 198 - Principles of Biology **Credits:** 4
CHM 210 - Chemistry I **Credits:** 4
MATH 205 - General Calculus **Credits:** 3
KSC-030
PHYS 113 - General Physics I **Credits:** 4
KSC-040
STAT 225 - Introduction to Statistics **Credits:** 3

ATM Program of Study: (26 credit hours)

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
ATM 160 - Engineered Systems and Technology in Agriculture **Credits:** 3
ATM 331 - Professional Practice for Agricultural Technology Managers **Credits:** 1
ATM 450 - Sensors and Controls for Agricultural and Biological Systems **Credits:** 3

ATM 536 - Agricultural Technology Management Capstone Project I **Credits:** 3
CC 110 - Introduction to Computing **Credits:** 2
CC 111 - Elements of Computer Programming **Credits:** 1
DEN 160 - College of Engineering Orientation **Credits:** 1
ECON 110 - Principles of Macroeconomics **Credits:** 3
OR
AGEC 120 - Agricultural Economics and Agribusiness **Credits:** 3
MANGT 220 - Principles of Management **Credits:** 3
OR
AGEC 318 - Food and Agribusiness Management **Credits:** 3
OR
MANGT 421 - Introduction to Operations and Supply Chain Management **Credits:** 3
Choose 3 credits of a Graphic options from the list below:
CE 202 - Civil Engineering Graphics **Credits:** 3
GEOG 302 - Cartography and Thematic Mapping **Credits:** 3
GRSC 210 - CAD Flow Sheets for Grain Processes **Credits:** 3
ME 212 - Engineering Graphics **Credits:** 2
OR
BAE 250 - Solid Modeling **Credits:** 1

Restricted Electives: (49 credit hours)

bae.k-state.edu/academics/undergraduate/atm/atm-elective-lists.pdf

AGRON 205 - Soils **Credits:** 3
AGRON 206 - Soils Laboratory **Credits:** 1
ATM 558 - Hydrology and Soil Erosion Management **Credits:** 3
ATM 653 - Water Management and Irrigation Systems **Credits:** 2
ATM 654 - Water Management and Irrigation Systems Lab **Credits:** 1
ATM 661 - Watershed Assessment and Management **Credits:** 3
ATM/BAE Electives
Technical Electives
Business Electives
GEOG 508 - Geographic Information Systems I **Credits:** 4

Total Minimum Hours Required for Graduation: 120

Biological Systems Engineering - Biological (BS)

The Bachelor of Science (B.S.) in biological systems engineering at Kansas State University is accredited by the Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Biological and Similarly Named Engineering Programs.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for

institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science: (29 credit hours)

BIOL 198 - Principles of Biology **Credits:** 4
CHM 210 - Chemistry I **Credits:** 4
CHM 230 - Chemistry II **Credits:** 4
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 *KSC-030*
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
MATH 340 - Elementary Differential Equations **Credits:** 4
PHYS 213 - Engineering Physics I **Credits:** 5 *KSC-040*
PHYS 214 - Engineering Physics II **Credits:** 5

Biological Requirements: (32 credit hours)

BAE 020 - Engineering Assembly **Credits:** 0
BAE 331 - Professional Practice for Biological Systems Engineering Design **Credits:** 1
BAE 345 - Properties of Biological Materials **Credits:** 2
BAE 445 - Biological Engineering Fundamentals **Credits:** 3
BAE 460 - Computational & Statistical Tools for Engineers **Credits:** 3
BAE 536 - Biological Systems Engineering Senior Design I **Credits:** 3
BAE 545 - Biological Process Engineering **Credits:** 3
BAE 636 - Biological Systems Engineering Senior Design II **Credits:** 1-3
BAE 640 - Instrumentation and Control for Biological Systems **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
DEN 161 - Engineering Problem Solving **Credits:** 1
ECE 519 - Electric Circuits for Engineers **Credits:** 3
IMSE 530 - Engineering Economic Analysis **Credits:** 2
ME 513 - Thermodynamics I **Credits:** 3
ME 571 - Fluid Mechanics **Credits:** 3

Restricted Electives: (29 credit hours)

https://bae.k-state.edu/academics/undergraduate/bse/BSE%20Track%20Electives.pdf

BAE 346 - Properties of Biological Materials Laboratory **Credits:** 1
BAE 645 - Bioenvironmental Reaction Engineering **Credits:** 3

BIOL 255 - General Microbiology **Credits:** 4
CE 530 - Statics and Dynamics **Credits:** 3
Track Electives
Engineering Electives
CHM 350 - General Organic Chemistry **Credits:** 3

Total Minimum Hours Required for Graduation: 126

Biological Systems Engineering - Environmental (BS)

The Bachelor of Science (B.S.) in biological systems engineering at Kansas State University is accredited by the Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Biological and Similarly Named Engineering Programs.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science: (29 credit hours)

BIOL 198 - Principles of Biology **Credits:** 4
CHM 210 - Chemistry I **Credits:** 4
CHM 230 - Chemistry II **Credits:** 4
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 *KSC-030*
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
MATH 340 - Elementary Differential Equations **Credits:** 4
PHYS 213 - Engineering Physics I **Credits:** 5 *KSC-040*
PHYS 214 - Engineering Physics II **Credits:** 5

Environmental Requirements: (32 credit hours)

NOTE: Students should enroll in BAE 020 each semester (up to 8 semesters)

BAE 020 - Engineering Assembly **Credits:** 0

BAE 331 - Professional Practice for Biological Systems Engineering Design **Credits:** 1
BAE 345 - Properties of Biological Materials **Credits:** 2
BAE 445 - Biological Engineering Fundamentals **Credits:** 3
BAE 460 - Computational & Statistical Tools for Engineers **Credits:** 3
BAE 536 - Biological Systems Engineering Senior Design I **Credits:** 3
BAE 545 - Biological Process Engineering **Credits:** 3
BAE 636 - Biological Systems Engineering Senior Design II **Credits:** 1-3
BAE 640 - Instrumentation and Control for Biological Systems **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
DEN 161 - Engineering Problem Solving **Credits:** 1
ECE 519 - Electric Circuits for Engineers **Credits:** 3
IMSE 530 - Engineering Economic Analysis **Credits:** 2
ME 513 - Thermodynamics I **Credits:** 3
ME 571 - Fluid Mechanics **Credits:** 3

Restricted Electives: (29 credit hours)

https://bae.k-state.edu/academics/undergraduate/bse/BSE%20Track%20Electives.pdf

AGRON 205 - Soils **Credits:** 3
AGRON 206 - Soils Laboratory **Credits:** 1
BAE 346 - Properties of Biological Materials Laboratory **Credits:** 1
BAE 560 - Hydrology for Biological Systems **Credits:** 3
BAE 651 - Air Pollution Engineering **Credits:** 3
BAE 660 - Hydraulic Transport in Biological Systems **Credits:** 3
CE 530 - Statics and Dynamics **Credits:** 3
CHM 350 - General Organic Chemistry **Credits:** 3
Engineering Electives
Track Electives
GEOG 508 - Geographic Information Systems I **Credits:** 4

Total Minimum Hours Required for Graduation: 126

Biological Systems Engineering - Machine Systems (BS)

The Bachelor of Science (B.S.) in biological systems engineering at Kansas State University is accredited by the Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Biological and Similarly Named Engineering Programs.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science: (29 credit hours)

BIOL 198 - Principles of Biology **Credits:** 4
CHM 210 - Chemistry I **Credits:** 4
CHM 230 - Chemistry II **Credits:** 4
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 *KSC-030*
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
MATH 340 - Elementary Differential Equations **Credits:** 4
PHYS 213 - Engineering Physics I **Credits:** 5 *KSC-040*
PHYS 214 - Engineering Physics II **Credits:** 5

Machine Systems Requirements: (32 credit hours)

NOTE: Students should enroll in BAE 020 each semester (up to 8 semesters)

BAE 020 - Engineering Assembly **Credits:** 0
BAE 331 - Professional Practice for Biological Systems Engineering Design **Credits:** 1
BAE 345 - Properties of Biological Materials **Credits:** 2
BAE 445 - Biological Engineering Fundamentals **Credits:** 3
BAE 460 - Computational & Statistical Tools for Engineers **Credits:** 3
BAE 536 - Biological Systems Engineering Senior Design I **Credits:** 3
BAE 545 - Biological Process Engineering **Credits:** 3
BAE 636 - Biological Systems Engineering Senior Design II **Credits:** 1-3
BAE 640 - Instrumentation and Control for Biological Systems **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
DEN 161 - Engineering Problem Solving **Credits:** 1
ECE 519 - Electric Circuits for Engineers **Credits:** 3
IMSE 530 - Engineering Economic Analysis **Credits:** 2
ME 513 - Thermodynamics I **Credits:** 3
ME 571 - Fluid Mechanics **Credits:** 3

Restricted Electives: (29 credit hours)

https://bae.k-state.edu/academics/undergraduate/bse/BSE%20Track%20Electives.pdf

AGRON 205 - Soils **Credits:** 3
BAE 350 - Off Road Machinery Systems **Credits:** 2
BAE 351 - Machinery Systems Lab **Credits:** 1
BAE 450 - Off Road Machine Power Components **Credits:** 3
BAE 550 - Hydraulics and Mechatronics **Credits:** 3

CE 333 - Statics **Credits:** 3
CE 533 - Mechanics of Materials **Credits:** 3
ME 212 - Engineering Graphics **Credits:** 2
ME 512 - Dynamics **Credits:** 3
Track Electives
ME 533 - Machine Design I **Credits:** 3

Total Minimum Hours Required for Graduation: 126

Environmental Engineering (BS)

The Bachelor of Science (B.S.) in environmental engineering at Kansas State University is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Environmental Engineering and Similarly Named Engineering Programs.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science Requirements: (32 credit hours)

BIOL 198 - Principles of Biology **Credits:** 4
CHM 210 - Chemistry I **Credits:** 4
CHM 230 - Chemistry II **Credits:** 4
CHM 350 - General Organic Chemistry **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 **KSC 030**
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
MATH 340 - Elementary Differential Equations **Credits:** 4
PHYS 213 - Engineering Physics I **Credits:** 5 **KSC 040**
PHYS 214 - Engineering Physics II **Credits:** 5

Environmental Engineering Requirements: (43 credit hours)

BAE 345 - Properties of Biological Materials **Credits:** 2
BAE 346 - Properties of Biological Materials Laboratory **Credits:** 1
BAE 460 - Computational & Statistical Tools for Engineers **Credits:** 3
BAE 643 - Life Cycle Assessment **Credits:** 3
BAE 445 - Biological Engineering Fundamentals **Credits:** 3
OR
CHE 320 - Chemical Process Analysis **Credits:** 3
BAE 560 - Hydrology for Biological Systems **Credits:** 3
OR
CE 550 - Water Resources Engineering **Credits:** 3
BAE 645 - Bioenvironmental Reaction Engineering **Credits:** 3
OR
CHE 550 - Chemical Reaction Engineering **Credits:** 3
BAE 660 - Hydraulic Transport in Biological Systems **Credits:** 3
OR
CE 552 - Hydraulic Engineering **Credits:** 3
CE 530 - Statics and Dynamics **Credits:** 3
CE 563 - Environmental Engineering Fundamentals **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
DEN 161 - Engineering Problem Solving **Credits:** 1
ECE 519 - Electric Circuits for Engineers **Credits:** 3
ENVE 331 - Professional Practice for Environmental Engineering Design **Credits:** 1
ENVE 536 - Environmental Engineering Senior Design **Credits:** 3
IMSE 530 - Engineering Economic Analysis **Credits:** 2
ME 310 - Elements of Thermodynamics **Credits:** 2
OR
CHE 520 - Chemical Engineering Thermodynamics I **Credits:** 2
ME 571 - Fluid Mechanics **Credits:** 3
OR
CHE 530 - Transport Phenomena I **Credits:** 3

Restricted Electives: (15 credit hours)

Choose 1 of the following:
AGRON 205 - Soils **Credits:** 3
AGRON 335 - Environmental Quality **Credits:** 3
GEOG 121 - Introductory Physical Geography: Earth Systems Science **Credits:** 3
GEOG 445 - Biogeography **Credits:** 3
GEOL 115 - Environmental Geology **Credits:** 3
Choose 1 of the following:
CE 202 - Civil Engineering Graphics **Credits:** 3
GEOG 508 - Geographic Information Systems I **Credits:** 4
Environmental Engineering Track Electives **Credits:** 6
Track Electives **Credits:** 3

Total Hours Required for Graduation: 126

Minor

Agricultural Technology Management Minor

Students enrolled in any undergraduate major may be admitted as a candidate for the ATM minor program upon filing a notice of intent with the Department of Biological and Agricultural Engineering office.

Program requirements

Agricultural technology management and/or biological and agricultural engineering courses with at least 6 credit hours numbered 400 or greater selected by the student in consultation with the ATM Program Coordinator.

ATM electives **Credits:** 12
ATM 160 - Engineered Systems and Technology in Agriculture **Credits:** 3

Total credit hours: (15)

Secondary Major

Biological Engineering Secondary Major

Program Prerequisites

BIOL 198 - Principles of Biology **Credits:** 4
CHM 210 - Chemistry I **Credits:** 4
and
CHM 230 - Chemistry II **Credits:** 4
OR
CHM 220 - Honors Chemistry I **Credits:** 5
and
CHM 250 - Honors Chemistry II **Credits:** 5
OR
PHYS 213 - Engineering Physics I **Credits:** 5
and
PHYS 214 - Engineering Physics II **Credits:** 5
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
MATH 340 - Elementary Differential Equations **Credits:** 4

Program Overview

Twenty-four (24) credit hours beyond the prerequisites described above are required with at least 10 of the 24 credit hours having biological content. Courses from a minimum of three departments are required.

Biological Science courses

A minimum of 4 credit hours from the courses listed below.

* BIOL 441 - Human Body I **Credits:** 4
* BIOL 442 - Human Body II **Credits:** 4
* BIOL 398 - Principles of Genetics **Credits:** 4
* BIOL 255 - General Microbiology **Credits:** 4
* BIOL 500 - Plant Physiology **Credits:** 3
* BIOL 529 - Ecology **Credits:** 3
* BIOL 541 - Cell Biology **Credits:** 3
* ASI 533 - Physiology of Domestic Animals **Credits:** 3

Chemistry and Biochemistry courses

A minimum of 4 credit hours from the courses listed below.

CHM 350 - General Organic Chemistry **Credits:** 3
CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
CHM 531 - Organic Chemistry I **Credits:** 3
CHM 532 - Organic Chemistry Laboratory **Credits:** 2
CHM 550 - Organic Chemistry II **Credits:** 3
CHM 585 - Physical Chemistry I **Credits:** 3
CHM 595 - Physical Chemistry II **Credits:** 3
CHM 596 - Physical Methods Laboratory **Credits:** 1-2
* BIOCH 521 - General Biochemistry **Credits:** 3
* BIOCH 522 - General Biochemistry Laboratory **Credits:** 3
* BIOCH 755 - Biochemistry I **Credits:** 3
* BIOCH 756 - Biochemistry I Laboratory **Credits:** 2
* BIOCH 765 - Biochemistry II **Credits:** 3

Engineering Science courses

Minimum of 9 credit hours from among the courses listed below.

* BAE 345 - Properties of Biological Materials **Credits:** 2
* BAE 346 - Properties of Biological Materials Laboratory **Credits:** 1
* BAE 445 - Biological Engineering Fundamentals **Credits:** 3

BAE 535 - Structures and Environment Engineering **Credits:** 3

* BAE 545 - Biological Process Engineering **Credits:** 3

BAE 640 - Instrumentation and Control for Biological Systems **Credits:** 3

* BAE 642 - Fundamentals of Conversion of Biorenewable Resources **Credits:** 3
* BAE 643 - Life Cycle Assessment **Credits:** 3
* BAE 645 - Bioenvironmental Reaction Engineering **Credits:** 3
* BAE 650 - Energy and Biofuel Engineering **Credits:** 3
* BAE 651 - Air Pollution Engineering **Credits:** 3
* BAE 663 - Environmental and Ecological Risk Assessment **Credits:** 3
* BAE 665 - Ecological Engineering Design **Credits:** 3
* BAE 740 - Biomaterials Processing **Credits:** 3
* CE 563 - Environmental Engineering Fundamentals **Credits:** 3

CE 565 - Water and Wastewater Engineering **Credits:** 3

* CE 766 - Wastewater Engineering: Biological Processes **Credits:** 3

CHE 320 - Chemical Process Analysis **Credits:** 3

CHE 520 - Chemical Engineering Thermodynamics I **Credits:** 2

CHE 521 - Chemical Engineering Thermodynamics II **Credits:** 3

CHE 530 - Transport Phenomena I **Credits:** 3

CHE 531 - Transport Phenomena II **Credits:** 3

CHE 550 - Chemical Reaction Engineering **Credits:** 3

* CHE 626 - Bioseparations **Credits:** 3

* CHE 715 - Biochemical Engineering **Credits:** 3

* ECE 571 - Introduction to Biomedical Engineering **Credits:** 3

ME 513 - Thermodynamics I **Credits:** 3

ME 523 - Thermodynamics II **Credits:** 3

ME 571 - Fluid Mechanics **Credits:** 3

ME 573 - Heat Transfer **Credits:** 3

Capstone Design Experience

At least three credit hours of coursework comprised of undergraduate biological engineering research or a design project incorporating biological engineering are required. Any research project having demonstrated biological content and fulfilling the research requirements of a student's honors program will satisfy this requirement. Courses in this list that have biological content can be included in the 10 credit hours of courses with biological content.

Undergraduate Research

BAE 497 - Undergraduate Research Experience **Credits:** 0-3

BAE 499 - Honors Research in Biological Systems Engineering **Credits:** 1-18

BAE 620 - Topics in Biological Systems Engineering **Credits:** 1-18

CHE 497 - Undergraduate Research Experience **Credits:** 0-3

CHE 499 - Honors Research in Chemical Engineering **Credits:** 1-6

CHE 580 - Problems in Chemical Engineering or Materials Science **Credits:** 1-18

CE 497 - Undergraduate Research Experience **Credits:** 0-3

CE 499 - Honors Research in Civil Engineering **Credits:** 1-18

CE 790 - Problems in Civil Engineering **Credits:** 1-18

ECE 497 - Undergraduate Research Experience **Credits:** 0-3

ECE 499 - Honors Research in Electrical and Computer Engineering **Credits:** 1-18

ECE 690 - Problems in Electrical and Computer Engineering **Credits:** 1-18

Design project courses

BAE 536 - Biological Systems Engineering Senior Design I **Credits:** 3

BAE 636 - Biological Systems Engineering Senior Design II **Credits:** 1-3

CHE 571 - Chemical Engineering Systems Design II **Credits:** 3

CE 585 - Civil Engineering Project **Credits:** 3

Other courses may be included if it can be demonstrated that the student has completed a significant design experience incorporating biological engineering content.

ECE 591 - Senior Design Experience II **Credits:** 2

Note

*Courses with biological content.

Undergraduate Certificate

Biomanufacturing Undergraduate Certificate

The Biomanufacturing certificate prepares a wide variety of students for careers in biomanufacturing through core knowledge and experiential learning with a focus on bioprocess technologies including upstream process operations (cell culture technologies), downstream process operations (separation technologies), and industry standards for the production of biotherapeutics, vaccines, industrial enzymes, and biochemicals.

Admission Procedures

The certificate program is open to any student admitted to a K-State degree program and to non-degree seeking students who apply to K-State as a non-degree seeking student.

Non-K-State Students must apply to K-State as a non-degree seeking undergraduate by completing the online application form.

Students currently enrolled in a K-State degree program must declare the Undergraduate Certificate Program by email to bae@ksu.edu

Required Courses: 15 credit hours

The Biomanufacturing certificate program requires 15 credit hours from four biomanufacturing competencies including:

Biomanufacturing and Industry Standards: 4 credit hours

ATM 245 - Introduction to Biomanufacturing Technology **Credits:** 3
ATM 446 - Regulatory Affairs for Biomanufacturing **Credits:** 1

Cell Culture Technology/Engineering: 5 credit hours

ATM 345 - Cell Culture Technology in Biomanufacturing **Credits:** 3
OR
BAE 445 - Biological Engineering Fundamentals **Credits:** 3
BAE 447 - Cell Culture Technology Laboratory **Credits:** 2

Separation Technology/Engineering: 5 credit hours

ATM 445 - Separation Technologies for Biomanufacturing **Credits:** 3
OR
BAE 626 - Bioseparations **Credits:** 3
OR
CHE 626 - Bioseparations **Credits:** 3
BAE 448 - Separation Technologies Laboratory **Credits:** 2

Experiential Learning in Biomanufacturing: 1 credit hour

One hour of coursework comprised of undergraduate biomanufacturing research, independent study, internship, design project, or capstone project in biomanufacturing is required. Any research project having demonstrated biomanufacturing and fulfilling the research requirements of a student's honors program will satisfy this requirement.

Select one/apply one credit of internship, research, Capstone project, or design project in biomanufacturing.

ATM 460 - Internship in Agricultural Technology Management **Credits:** 1-3
ATM 536 - Agricultural Technology Management Capstone Project I **Credits:** 3
ATM 610 - Problems in Agricultural Technology Management **Credits:** 1-3
BAE 536 - Biological Systems Engineering Senior Design I **Credits:** 3
BAE 610 - Problems in Biological Systems Engineering **Credits:** 1-3
BAE 636 - Biological Systems Engineering Senior Design II **Credits:** 1-3

Other courses may be included if it can be demonstrated that the student has completed an experiential learning experience incorporating biomanufacturing technology.

Total Hours Required: 15

Other Program Choices

Agricultural Technology Management - Agribusiness Management (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ATM 160 - Engineered Systems and Technology in Agriculture	3	
CHM 210 - Chemistry I	4	
COMM 106 - Public Speaking I	3	**KSC 020**
DEN 160 - College of Engineering Orientation	1	
Social and Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 14		
Semester 2		
BIOL 198 - Principles of Biology	4	

ECON 110 - Principles of Macroeconomics **OR**	3	
AGEC 120 - Agricultural Economics and Agribusiness	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
Arts and Humanities Requirement	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 205 - General Calculus	3	**KSC 030**
Arts and Humanities Requirement	3	**KSC 060**
MANGT 220 - Principles of Management **OR**	3	
AGEC 318 - Food and Agribusiness Management **OR**	3	
MANGT 421 - Introduction to Operations and Supply Chain Management	3	
Graphics Elective	3	
Total Credits: 15		
Semester 2		
ACCTG 231 - Introduction to Managerial Accounting	3	
PHYS 113 - General Physics I	4	**KSC 040**
STAT 225 - Introduction to Statistics	3	
ATM/BAE Elective	3	
Social and Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		

Third Year		
Semester 1		
ACCTG 241 - Introduction to Financial Accounting	3	
AGRON 205 - Soils	3	
BAE 350 - Off Road Machinery Systems	2	
BAE 351 - Machinery Systems Lab	1	
CC 110 - Introduction to Computing	2	
CC 111 - Elements of Computer Programming	1	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
ATM 331 - Professional Practice for Agricultural Technology Managers	1	
ATM 450 - Sensors and Controls for Agricultural and Biological Systems	3	
MKTG 250 - Introduction to Marketing **OR**	3	
AGEC 515 - Food and Agribusiness Marketing	3	
ATM 558 - Hydrology and Soil Erosion Management	3	
Technical Elective	3	
Business Management Elective	3	
Total Credits: 15		
Fourth Year		
Semester 1		
AGEC 513 - Agricultural Finance	3	

ATM 536 - Agricultural Technology Management Capstone Project I	3	
FINAN 450 - Principles of Finance **OR**	3	
AGEC 513 - Agricultural Finance	3	
ATM 511 - Agricultural Building Systems	3	
ATM/BAE Elective	3	
Technical Elective	3	
Total Credits: 15		
Semester 2		
ATM/BAE Elective	3	
ATM/BAE Elective	6	
Technical Elective	2	
Business Management Elective	3	
Total Credits: 14		
Total Program Hours: 120		

Agricultural Technology Management - Biomanufacturing Technology (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ATM 160 - Engineered Systems and Technology in Agriculture	3	
CHM 210 - Chemistry I	4	
COMM 106 - Public Speaking I	3	**KSC 020**

DEN 160 - College of Engineering Orientation	1	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 14		
Semester 2		
BIOL 198 - Principles of Biology	4	
ECON 110 - Principles of Macroeconomics **OR**	3	
AGEC 120 - Agricultural Economics and Agribusiness	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 205 - General Calculus	3	**KSC 030**
Arts & Humanities Requirement	3	**KSC 060**
Graphics Elective	3	
MANGT 220 - Principles of Management **OR**	3	
AGEC 318 - Food and Agribusiness Management **OR**	3	
MANGT 421 - Introduction to Operations and Supply Chain Management	3	
Total Credits: 15		
Semester 2		

ACCTG 231 - Introduction to Managerial Accounting	3	
PHYS 113 - General Physics I	4	**KSC 040**
STAT 225 - Introduction to Statistics	3	
Technical Elective	2	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Third Year		
Semester 1		
ATM 245 - Introduction to Biomanufacturing Technology	3	
BIOCH 265 - Introductory Organic and Biochemistry	5	
CC 110 - Introduction to Computing	2	
CC 111 - Elements of Computer Programming	1	
ATM/BAE Elective	3	
Total Credits: 14		
Semester 2		
ATM 331 - Professional Practice for Agricultural Technology Managers	1	
ATM 345 - Cell Culture Technology in Biomanufacturing	3	
ATM 450 - Sensors and Controls for Agricultural and Biological Systems	3	
BAE 345 - Properties of Biological Materials	2	
BAE 346 - Properties of Biological Materials Laboratory	1	
Business Management Elective	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		

Fourth Year			
Semester 1			
ATM 511 - Agricultural Building Systems	3		
ATM 536 - Agricultural Technology Management Capstone Project I	3		
BIOL 255 - General Microbiology	4		
ATM/BAE Elective	3		
Technical Elective	2		
Total Credits: 15			
Semester 2			
ATM 545 - Processing and Storage of Grains	3		
ATM/BAE Elective	6		
Technical Elective	3		
Business Management Elective	3		
Total Credits: 15			
Program Total Hours: 120			

Agricultural Technology Management - Precision Agriculture (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.			
First Year	**Hours**	**K-State Core**	
Semester 1			
ATM 160 - Engineered Systems and Technology in Agriculture	3		
CHM 210 - Chemistry I	4		

COMM 106 - Public Speaking I	3	**KSC 020**
DEN 160 - College of Engineering Orientation	1	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 14		
Semester 2		
BIOL 198 - Principles of Biology	4	
ECON 110 - Principles of Macroeconomics **OR**	3	
AGEC 120 - Agricultural Economics and Agribusiness	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
Arts & Humanities Requirement	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 205 - General Calculus	3	**KSC 030**
STAT 225 - Introduction to Statistics	3	
MANGT 220 - Principles of Management **OR**	3	
AGEC 318 - Food and Agribusiness Management **OR**	3	
MANGT 421 - Introduction to Operations and Supply Chain Management	3	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		

Semester 2		
ACCTG 231 - Introduction to Managerial Accounting	3	
AGRON 202 - Introduction to Precision Ag Software	3	
GEOG 302 - Cartography and Thematic Mapping	3	
PHYS 113 - General Physics I	4	**KSC 040**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Third Year		
Semester 1		
AGRON 205 - Soils	3	
AGRON 206 - Soils Laboratory	1	
BAE 350 - Off Road Machinery Systems	2	
BAE 351 - Machinery Systems Lab	1	
CC 110 - Introduction to Computing	2	
CC 111 - Elements of Computer Programming	1	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Technical Elective	2	
Total Credits: 15		
Semester 2		
ATM 331 - Professional Practice for Agricultural Technology Managers	1	
ATM 450 - Sensors and Controls for Agricultural and Biological Systems	3	
ATM 558 - Hydrology and Soil Erosion Management	3	
GEOG 508 - Geographic Information Systems I	4	

ATM/BAE Elective	6		
Total Credits: 17			
Fourth Year			
Semester 1			
ATM 536 - Agricultural Technology Management Capstone Project I	3		
ATM 550 - Precision Agriculture Technologies	3		
ATM 653 - Water Management and Irrigation Systems	2		
ATM 654 - Water Management and Irrigation Systems Lab	1		
ATM/BAE Elective	1		
Technical Elective	3		
Total Credits: 15			
Semester 2			
AGRON 655 - Site Specific Agriculture	3		
ATM/BAE Elective	9		
Business Management Elective	3		
Total Credits: 15			
Total Programs Hours: 120			

Agricultural Technology Management - Production Agriculture (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**

Semester 1		
ATM 160 - Engineered Systems and Technology in Agriculture	3	
CHM 210 - Chemistry I	4	
COMM 106 - Public Speaking I	3	**KSC 020**
DEN 160 - College of Engineering Orientation	1	
Social and Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 14		
Semester 2		
BIOL 198 - Principles of Biology	4	
ECON 110 - Principles of Macroeconomics **OR**	3	
AGEC 120 - Agricultural Economics and Agribusiness	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
Arts and Humanities Requirement	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 205 - General Calculus	3	**KSC 030**
BAE 350 - Off Road Machinery Systems	2	
BAE 351 - Machinery Systems Lab	1	
MANGT 220 - Principles of Management **OR**	3	
AGEC 318 - Food and Agribusiness Management **OR**	3	

MANGT 421 - Introduction to Operations and Supply Chain Management	3	
Graphics Elective	3	
Total Credits: 15		
Semester 2		
ACCTG 231 - Introduction to Managerial Accounting	3	
AGRON 205 - Soils	3	
AGRON 206 - Soils Laboratory	1	
PHYS 113 - General Physics I	4	**KSC 040**
STAT 225 - Introduction to Statistics	3	
Social and Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 17		
Third Year		
Semester 1		
ATM 511 - Agricultural Building Systems	3	
CC 110 - Introduction to Computing	2	
CC 111 - Elements of Computer Programming	1	
IMSE 250 - Introduction to Manufacturing Processes and Systems	2	
IMSE 251 - Manufacturing Processes Laboratory	1	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Business Elective	3	
Total Credits: 15		
Semester 2		

ATM 331 - Professional Practice for Agricultural Technology Managers	1	
ATM 450 - Sensors and Controls for Agricultural and Biological Systems	3	
ATM 558 - Hydrology and Soil Erosion Management	3	
Technical Elective	3	
Arts and Humanities Requirement	3	**KSC 060**
Total Credits: 13		
Fourth Year		
Semester 1		
ATM 536 - Agricultural Technology Management Capstone Project I	3	
ATM/BAE Elective	6	
Technical Elective	3	
Business Management Elective	3	
Total Credits: 15		
Semester 2		
ATM 455 - Engines and Power Transfer	3	
ATM/BAE Elective	6	
Technical Elective	6	
Total Credits: 15		
Total Program Hours: 120		

Agricultural Technology Management - Water Management (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		

First Year	Hours	K-State Core	
Semester 1			
ATM 160 - Engineered Systems and Technology in Agriculture	3		
CHM 210 - Chemistry I	4		
COMM 106 - Public Speaking I	3	**KSC 020**	
DEN 160 - College of Engineering Orientation	1		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 14			
Semester 2			
BIOL 198 - Principles of Biology	4		
ECON 110 - Principles of Macroeconomics **OR**	3		
AGEC 120 - Agricultural Economics and Agribusiness	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
Arts & Humanities Requirement	3	**KSC 060**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Second Year			
Semester 1			
ENGL 200 - Expository Writing II	3	**KSC 010**	
MATH 205 - General Calculus	3	**KSC 030**	
STAT 225 - Introduction to Statistics	3		
MANGT 220 - Principles of Management **OR**	3		
AGEC 318 - Food and Agribusiness Management **OR**	3		

MANGT 421 - Introduction to Operations and Supply Chain Management	3	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Semester 2		
ACCTG 231 - Introduction to Managerial Accounting	3	
GEOG 302 - Cartography and Thematic Mapping	3	
PHYS 113 - General Physics I	4	**KSC 040**
Technical Elective	2	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Third Year		
Semester 1		
AGRON 205 - Soils	3	
AGRON 206 - Soils Laboratory	1	
CC 110 - Introduction to Computing	2	
CC 111 - Elements of Computer Programming	1	
ATM 661 - Watershed Assessment and Management	3	
ATM/BAE Elective	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
ATM 331 - Professional Practice for Agricultural Technology Managers	1	

ATM 450 - Sensors and Controls for Agricultural and Biological Systems	3	
ATM 558 - Hydrology and Soil Erosion Management	3	
GEOG 508 - Geographic Information Systems I	4	
ATM/BAE Elective	3	
Total Credits: 14		
Fourth Year		
Semester 1		
ATM 536 - Agricultural Technology Management Capstone Project I	3	
ATM 653 - Water Management and Irrigation Systems	2	
ATM 654 - Water Management and Irrigation Systems Lab	1	
ATM/BAE Elective	6	
Business Management Elective	3	
Total Credits: 15		
Semester 2		
ATM/BAE Elective	6	
Technical Elective	6	
Business Management Elective	3	
Total Credits: 15		
Total Programs Hours: 120		

Biological Systems Engineering - Biological (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		

First Year	Hours	K-State Core
Semester		
BAE 020 - Engineering Assembly	0	
CHM 210 - Chemistry I	4	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
DEN 160 - College of Engineering Orientation	1	
DEN 161 - Engineering Problem Solving	1	
Social & Behavioral Sciences Requirement	3	**KSC 050**
COMM 106 - Public Speaking I	3	**KSC 020**
Total Credits: 16		
Semester 2		
BAE 020 - Engineering Assembly	0	
BIOL 198 - Principles of Biology	4	
CHM 230 - Chemistry II	4	
MATH 221 - Analytic Geometry and Calculus II	4	
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 15		
Second Year		
Semester 1		
BAE 020 - Engineering Assembly	0	
CHM 350 - General Organic Chemistry	3	
PHYS 213 - Engineering Physics I	5	**KSC 040**
BAE 460 - Computational & Statistical Tools for Engineers	3	

MATH 222 - Analytic Geometry and Calculus III	4	
Total Credits: 15		
Semester 2		
BAE 020 - Engineering Assembly	0	
BAE 345 - Properties of Biological Materials	2	
BAE 346 - Properties of Biological Materials Laboratory	1	
CE 530 - Statics and Dynamics	3	
MATH 340 - Elementary Differential Equations	4	
PHYS 214 - Engineering Physics II	5	
IMSE 530 - Engineering Economic Analysis	2	
Total Credits: 17		
Third Year		
Semester 1		
BAE 020 - Engineering Assembly	0	
BAE 445 - Biological Engineering Fundamentals	3	
ME 513 - Thermodynamics I	3	
ME 571 - Fluid Mechanics	3	
BIOL 255 - General Microbiology 4	4	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Semester 2		
BAE 020 - Engineering Assembly	0	

BAE 331 - Professional Practice for Biological Systems Engineering Design	1	
BAE 645 - Bioenvironmental Reaction Engineering	3	
Engineering Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
ECE 519 - Electric Circuits for Engineers	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
Total Credits: 16		
Fourth Year		
Semester 1		
BAE 020 - Engineering Assembly	0	
BAE 545 - Biological Process Engineering	3	
BAE 536 - Biological Systems Engineering Senior Design I	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Engineering Elective	3	
Engineering Elective	3	
Total Credits: 15		
Semester 2		
BAE 020 - Engineering Assembly	0	
BAE 640 - Instrumentation and Control for Biological Systems	3	
BAE 636 - Biological Systems Engineering Senior Design II	1-3	
Engineering Elective	3	
Engineering Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**

Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Total Program Hours: 126		

Biological Systems Engineering - Environmental (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
BAE 020 - Engineering Assembly	0	
CHM 210 - Chemistry I	4	
DEN 160 - College of Engineering Orientation	1	
DEN 161 - Engineering Problem Solving	1	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
COMM 106 - Public Speaking I	3	**KSC 020**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Semester 2		
BAE 020 - Engineering Assembly	0	
BIOL 198 - Principles of Biology	4	
CHM 230 - Chemistry II	4	
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 221 - Analytic Geometry and Calculus II	4	
Total Credits: 15		

Second Year		
Semester 1		
BAE 020 - Engineering Assembly	0	
CHM 350 - General Organic Chemistry	3	
MATH 222 - Analytic Geometry and Calculus III	4	
PHYS 213 - Engineering Physics I	5	**KSC 040**
BAE 460 - Computational & Statistical Tools for Engineers	3	
Total Credits: 15		
Semester 2		
BAE 020 - Engineering Assembly	0	
BAE 345 - Properties of Biological Materials	2	
BAE 346 - Properties of Biological Materials Laboratory	1	
CE 530 - Statics and Dynamics	3	
IMSE 530 - Engineering Economic Analysis	2	
MATH 340 - Elementary Differential Equations	4	
PHYS 214 - Engineering Physics II	5	
Total Credits: 17		
Third Year		
Semester 1		
BAE 020 - Engineering Assembly	0	
BAE 445 - Biological Engineering Fundamentals	3	
ME 513 - Thermodynamics I	3	

ME 571 - Fluid Mechanics	3	
GEOG 508 - Geographic Information Systems I	4	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Semester 2		
BAE 020 - Engineering Assembly	0	
BAE 331 - Professional Practice for Biological Systems Engineering Design	1	
BAE 560 - Hydrology for Biological Systems	3	
AGRON 205 - Soils	3	
ECE 519 - Electric Circuits for Engineers	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Fourth Year		
Semester 1		
BAE 020 - Engineering Assembly	0	
BAE 536 - Biological Systems Engineering Senior Design I	3	
BAE 545 - Biological Process Engineering	3	
BAE 660 - Hydraulic Transport in Biological Systems	3	
Engineering Elective	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		

Semester 2		
BAE 020 - Engineering Assembly	0	
BAE 636 - Biological Systems Engineering Senior Design II	1-3	
BAE 640 - Instrumentation and Control for Biological Systems	3	
BAE 651 - Air Pollution Engineering	3	
Arts & Humanities Requirement	3	**KSC 060**
Elective	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Total Program Hours: 126		

Biological Systems Engineering - Machine Systems (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
BAE 020 - Engineering Assembly	0	
CHM 210 - Chemistry I	4	
DEN 160 - College of Engineering Orientation	1	
DEN 161 - Engineering Problem Solving	1	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
COMM 106 - Public Speaking I	3	**KSC 020**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		

Semester 2		
BAE 020 - Engineering Assembly	0	
BIOL 198 - Principles of Biology	4	
CHM 230 - Chemistry II	4	
MATH 221 - Analytic Geometry and Calculus II	4	
ME 212 - Engineering Graphics	2	
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 17		
Second Year		
Semester 1		
BAE 020 - Engineering Assembly	0	
BAE 350 - Off Road Machinery Systems	2	
BAE 351 - Machinery Systems Lab	1	
MATH 222 - Analytic Geometry and Calculus III	4	
PHYS 213 - Engineering Physics I	5	**KSC 040**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Semester 2		
BAE 020 - Engineering Assembly	0	
BAE 450 - Off Road Machine Power Components	3	
CE 333 - Statics	3	
MATH 340 - Elementary Differential Equations	4	
PHYS 214 - Engineering Physics II	5	

IMSE 530 - Engineering Economic Analysis	2		
Total Credits: 17			
Third Year			
Semester 1			
BAE 020 - Engineering Assembly	0		
BAE 550 - Hydraulics and Mechatronics	3		
ME 512 - Dynamics	3		
ME 513 - Thermodynamics I	3		
CE 533 - Mechanics of Materials	3		
BAE 460 - Computational & Statistical Tools for Engineers	3		
Total Credits: 15			
Semester 2			
BAE 020 - Engineering Assembly	0		
BAE 331 - Professional Practice for Biological Systems Engineering Design	1		
BAE 345 - Properties of Biological Materials	2		
ME 533 - Machine Design I	3		
ME 571 - Fluid Mechanics	3		
ENGL 200 - Expository Writing II	3	**KSC 010**	
ECE 519 - Electric Circuits for Engineers	3		
Total Credits: 15			
Fourth Year			
Semester 1			

BAE 020 - Engineering Assembly	0	
BAE 445 - Biological Engineering Fundamentals	3	
BAE 536 - Biological Systems Engineering Senior Design I	3	
BAE 545 - Biological Process Engineering	3	
AGRON 205 - Soils	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
BAE 020 - Engineering Assembly	0	
BAE 636 - Biological Systems Engineering Senior Design II	1-3	
BAE 640 - Instrumentation and Control for Biological Systems	3	
Social & Behavior Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Track Elective	3	
Total Credits: 16		
Total Program Hours: 126		

Environmental Engineering (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
DEN 160 - College of Engineering Orientation	1	

DEN 161 - Engineering Problem Solving	1	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
CHM 210 - Chemistry I	4	
ENGL 100 - Expository Writing I	3	**KSC 010**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Semester 2		
BIOL 198 - Principles of Biology	4	
CHM 230 - Chemistry II	4	
MATH 221 - Analytic Geometry and Calculus II	4	
COMM 106 - Public Speaking I	3	**KSC 020**
Total Credits: 15		
Second Year		
Semester 1		
CHM 350 - General Organic Chemistry	3	
MATH 222 - Analytic Geometry and Calculus III	4	
PHYS 213 - Engineering Physics I	5	**KSC 040**
BAE 460 - Computational & Statistical Tools for Engineers	3	
Total Credits: 15		
Semester 2		
BAE 345 - Properties of Biological Materials	2	
BAE 346 - Properties of Biological Materials Laboratory	1	

CE 530 - Statics and Dynamics	3	
MATH 340 - Elementary Differential Equations	4	
PHYS 214 - Engineering Physics II	5	
ME 310 - Elements of Thermodynamics **OR**	2	
CHE 520 - Chemical Engineering Thermodynamics I	2	
Total Credits: 17		
Third Year		
Semester 1		
CE 563 - Environmental Engineering Fundamentals	3	
BAE 445 - Biological Engineering Fundamentals **OR**	3	
CHE 320 - Chemical Process Analysis	3	
ME 571 - Fluid Mechanics **OR**	3	
CHE 530 - Transport Phenomena I	3	
CE 202 - Civil Engineering Graphics **OR**	3	
GEOG 508 - Geographic Information Systems I	4	
ENGL 200 - Expository Writing II	3	**KSC 010**
Total Credits: 15		
Semester 2		
ENVE 331 - Professional Practice for Environmental Engineering Design	1	
BAE 645 - Bioenvironmental Reaction Engineering **OR**	3	
CHE 550 - Chemical Reaction Engineering	3	
BAE 560 - Hydrology for Biological Systems **OR**	3	
CE 550 - Water Resources Engineering	3	

BAE 643 - Life Cycle Assessment	3	
Earth Science Elective	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Fourth Year		
Semester 1		
ENVE 536 - Environmental Engineering Senior Design	3	
Restricted Environmental Engineering Elective	3	
BAE 660 - Hydraulic Transport in Biological Systems **OR**	3	
CE 552 - Hydraulic Engineering	3	
IMSE 530 - Engineering Economic Analysis	2	
Arts & Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 17		
Semester 2		
ECE 519 - Electric Circuits for Engineers	3	
Environmental Engineering restricted elective	3	
Track Elective	3	
Arts & Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Total Program Hours: 126		

Chemical Engineering

Tim Taylor Department of Chemical Engineering

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che.k-state.edu

Chemical engineers contribute to society by providing an essential link between the basic chemical sciences and commercial application and production. Chemical engineering is a core engineering discipline, firmly rooted in the basic sciences. Consequently, chemical engineering graduates have a broad array of career choices available to them. Chemical engineers find employment in the chemical and allied industries including energy, petrochemicals, biotechnology, agriculture, food, pharmaceuticals, the environment, and microelectronics.

Bachelor of Science

Chemical Engineering (BS)

The Bachelor of Science (B.S.) in chemical engineering at Kansas State University is accredited by the Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Chemical, Biochemical, Biomolecular and Similarly Named Engineering Programs.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science Requirements: (32 credit hours)

CHM 210 - Chemistry I **Credits:** 4
OR

CHM 220 - Honors Chemistry I **Credits:** 5
CHM 230 - Chemistry II **Credits:** 4
OR
CHM 250 - Honors Chemistry II **Credits:** 5
CHM 371 - Chemical Analysis **Credits:** 4 *
CHM 531 - Organic Chemistry I **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 **KSC 030**
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
MATH 340 - Elementary Differential Equations **Credits:** 4
PHYS 213 - Engineering Physics I **Credits:** 5 **KSC 040**
PHYS 214 - Engineering Physics II **Credits:** 5

Chemical Engineering Requirements: (43 credit hours)

CHE 015 - Engineering Assembly **Credits:** 0
CHE 320 - Chemical Process Analysis **Credits:** 3
CHE 416 - Computational Techniques in Chemical Engineering **Credits:** 3
CHE 520 - Chemical Engineering Thermodynamics I **Credits:** 2
CHE 521 - Chemical Engineering Thermodynamics II **Credits:** 3
CHE 530 - Transport Phenomena I **Credits:** 3
CHE 531 - Transport Phenomena II **Credits:** 3
CHE 542 - Unit Operations Laboratory **Credits:** 3
CHE 535 - Transport Phenomena Laboratory **Credits:** 3
CHE 550 - Chemical Reaction Engineering **Credits:** 3
CHE 560 - Separational Process Design **Credits:** 3
CHE 561 - Chemical Process Dynamics and Control **Credits:** 3
CHE 565 - Health and Safety in Chemical Engineering **Credits:** 3
CHE 570 - Chemical Engineering Systems Design I **Credits:** 3
CHE 571 - Chemical Engineering Systems Design II **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
DEN 161 - Engineering Problem Solving **Credits:** 1

Restricted Electives: (17 credit hours)

Physical Chemistry Elective **Credits: 3**
BIOCH or BIOL or CHM (Advanced Laboratory) **Credits: 2**
BIOCH or BIOL or CHM (Advanced Course) **Credits: 3**
CHE Materials or Biomaterials Elective **Credits: 3**
Engineering Topics Course **Credits: 3**
Chemical Engineering Elective **Credits: 3**

Notes

*Honors Chemistry I (CHM 220) and Honors Chemistry II (CHM 250) may be taken instead of CHM 210, CHM 230, and CHM 371. If this option is elected, two additional credit hours of technical electives are to be selected.

The departmental requirements below must be satisfied.

All electives must be on the lists approved by the department head and must support the program educational objectives and student outcomes of the chemical engineering program. A student's overall program of study must meet university general education (Kansas State University Core) criteria; both the required and elective components can contribute to satisfying the Kansas State University Core.

A list of approved chemistry/biology/biochemistry electives, advanced laboratory experience electives, chemical engineering electives, and engineering topics electives may be found on the department website, https://che.k-state.edu/student-success/advising/ .

A minimum cumulative GPA of 2.00 (a C average) for all chemical engineering courses 400 level and above, including chemical engineering elective courses, is required for graduation.

A maximum of two 'D' grades in chemical engineering courses 400 level and above is allowed.

Of the 47 credit hours of required chemical engineering and chemical engineering elective courses, at least half of these credit hours must be completed at Kansas State University.

Total credit for undergraduate research (CHE 497 and/or CHE 499) applicable to the degree is limited to a maximum of six (6) credit hours.

Students who satisfy all or part of Kansas State Core Free Electives (Requirement #7) with courses that satisfy other degree requirements may use additional unrestricted electives to meet the degree requirement of 128 credit hours.

Total Hours Required for Graduation: 128

Other Program Choices

Chemical Engineering (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
CHE 015 - Engineering Assembly	0	
CHM 210 - Chemistry I	4	
DEN 160 - College of Engineering Orientation	1	
DEN 161 - Engineering Problem Solving	1	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Arts & Humanities Requirement	3	**KSC 060**
ENGL 100 - Expository Writing I	3	**KSC 010**
Total Credits: 16		

Semester 2		
CHE 015 - Engineering Assembly	0	
CHM 230 - Chemistry II	4	
MATH 221 - Analytic Geometry and Calculus II	4	
Arts & Humanities Requirement	3	**KSC 060**
Communication Requirement	3	**KSC 020**
ENGL 200 - Expository Writing II	3	**KSC 010**
Total Credits: 17		
Second Year		
Semester 1		
CHE 015 - Engineering Assembly	0	
CHE 320 - Chemical Process Analysis	3	
CHM 371 - Chemical Analysis	4	
MATH 222 - Analytic Geometry and Calculus III	4	
PHYS 213 - Engineering Physics I	5	**KSC 040**
Total Credits: 16		
Semester 2		
CHE 015 - Engineering Assembly	0	
CHE 416 - Computational Techniques in Chemical Engineering	3	
CHE 520 - Chemical Engineering Thermodynamics I	2	
CHM 531 - Organic Chemistry I	3	
MATH 340 - Elementary Differential Equations	4	

PHYS 214 - Engineering Physics II	5	
Total Credit: 17		
Third Year		
Semester 1		
CHE 015 - Engineering Assembly	0	
CHE 521 - Chemical Engineering Thermodynamics II	3	
CHE 530 - Transport Phenomena I	3	
Chemistry/Biochemistry/Biology Elective	3	
Advanced Laboratory Experience Elective	2	
Materials Elective	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 17		
Semester 2		
CHE 015 - Engineering Assembly	0	
CHE 531 - Transport Phenomena II	3	
CHE 535 - Transport Phenomena Laboratory	3	
CHE 560 - Separational Process Design	3	
Chemistry/Biochemistry/Biology Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Fourth Year		
Semester 1		

CHE 015 - Engineering Assembly	0	
CHE 550 - Chemical Reaction Engineering	3	
CHE 565 - Health and Safety in Chemical Engineering	3	
CHE 570 - Chemical Engineering Systems Design I	3	
Engineering Topics Elective	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Semester 2		
CHE 015 - Engineering Assembly	0	
CHE 542 - Unit Operations Laboratory	3	
CHE 561 - Chemical Process Dynamics and Control	3	
CHE 571 - Chemical Engineering Systems Design II	3	
Chemical Engineering Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Total Program Hours: 128		

Civil Engineering

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Civil engineering is the design, construction and maintenance of facilities and systems for the general public or private sector. The civil engineering department offers seven tracks within the bachelor's in civil engineering degree: general, construction, environmental, geotechnical, structures, transportation and materials, and water resources.

Bachelor of Science

Civil Engineering - Construction (BS)

The Bachelor of Science (B.S.) in Civil Engineering at Kansas State University is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Civil Engineering Programs.

Bachelor's degree requirements

The civil engineering curriculum requires the completion of 128 credit hours. There are seven available tracks that impact the selection of courses taken to meet the requirements of the track electives and the design electives listed in the senior year of the civil engineering curriculum. The seven tracks are General, Construction Engineering, Environmental Engineering, Geotechnical Engineering, Structural Engineering, Transportation/Materials Engineering, and Water Resources Engineering.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Construction Track

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science: (22-23 credit hours)

CHM 210 - Chemistry I **Credits:** 4
GEOL 100 - Earth in Action **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 **KSC-030**
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 340 - Elementary Differential Equations **Credits:** 4
PHYS 213 - Engineering Physics I **Credits:** 5 **KSC-040**
STAT 510 - Introductory Probability and Statistics I **Credits:** 3
Math or Science Course

Construction Requirements: (52-54 credit hours)

CE 015 - Engineering Assembly **Credits:** 0
CE 202 - Civil Engineering Graphics **Credits:** 3

CE 212 - Elementary Surveying Engineering **Credits:** 3
CE 241 - Introduction to Civil Engineering Materials **Credits:** 3
CE 301 - Civil Engineering Problem Solving **Credits:** 1
CE 333 - Statics **Credits:** 3
CE 351 - Incompressible Fluid Mechanics **Credits:** 3
CE 501 - Project Economic Evaluation **Credits:** 1
CE 502 - Project Management **Credits:** 1
CE 503 - Project Delivery **Credits:** 1
CE 522 - Soil Mechanics I **Credits:** 3
CE 533 - Mechanics of Materials **Credits:** 3
CE 534 - Mechanics of Materials Laboratory **Credits:** 1
CE 537 - Introduction to Structural Analysis **Credits:** 3
CE 563 - Environmental Engineering Fundamentals **Credits:** 3
CE 571 - Introduction to Transportation Engineering **Credits:** 3
CE 585 - Civil Engineering Project **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
DEN 161 - Engineering Problem Solving **Credits:** 1
ENGL 415 - Written Communication for Engineers **Credits:** 3
ME 310 - Elements of Thermodynamics **Credits:** 2
ME 512 - Dynamics **Credits:** 3
CE 550 - Water Resources Engineering **Credits:** 3
OR
BAE 560 - Hydrology for Biological Systems **Credits:** 3
DEN 325 - Engineering Professionalism and Decision Making **Credits:** 1
OR
PHILO 185 - Engineering Ethics **Credits:** 3

Restricted Electives: (18 credit hours)

Approved Civil Engineering electives and requirements are provided in the undergraduate student handbook available at https://ce.k-state.edu/academics/undergraduate/

CE 441 - Design of Civil Engineering Materials **Credits:** 3
CE 528 - Foundation Engineering **Credits:** 3
CE 542 - Structural Engineering in Steel **Credits:** 3
CE 544 - Structural Engineering in Concrete **Credits:** 3
CE 572 - Highway Engineering **Credits:** 3
CE 552 - Hydraulic Engineering **Credits:** 3
OR
CE 565 - Water and Wastewater Engineering **Credits:** 3

Total Minimum Hours Required for Graduation: 128

Notes:

Students must achieve a minimum GPA of 2.250 in the four Civil Engineering (CE) design elective courses that fulfill their 12-hour CE design elective requirement. These electives must be drawn from at least four of the following design areas:

Environmental, Geotechnical, Structural, Transportation/Materials, and Water Resources. If a student completes more than 12 hours of CE design electives, the best 12 hours will be used to compute CE Design Elective GPA.

A resident cumulative GPA of 2.300 or better is required for a change of major from any engineering program to civil engineering.

Civil Engineering - Environmental (BS)

The Bachelor of Science (B.S.) in Civil Engineering at Kansas State University is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Civil Engineering Programs.

The civil engineering curriculum requires the completion of 128 credit hours. There are seven available tracks that impact the selection of courses taken to meet the requirements of the track electives and the design electives listed in the senior year of the civil engineering curriculum. The seven tracks are General, Construction Engineering, Environmental Engineering, Geotechnical Engineering, Structural Engineering, Transportation/Materials Engineering, and Water Resources Engineering.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Environmental Track

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science: 22-23 credit hours

CHM 210 - Chemistry I **Credits:** 4
GEOL 100 - Earth in Action **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
KSC-030
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 340 - Elementary Differential Equations **Credits:** 4
PHYS 213 - Engineering Physics I **Credits:** 5
KSC-040
Math and Science Course
STAT 510 - Introductory Probability and Statistics I **Credits:** 3

Environmental Requirements: 52-54 credit hours

CE 015 - Engineering Assembly **Credits:** 0
CE 202 - Civil Engineering Graphics **Credits:** 3
CE 212 - Elementary Surveying Engineering **Credits:** 3
CE 241 - Introduction to Civil Engineering Materials **Credits:** 3
CE 301 - Civil Engineering Problem Solving **Credits:** 1
CE 333 - Statics **Credits:** 3
CE 351 - Incompressible Fluid Mechanics **Credits:** 3
CE 501 - Project Economic Evaluation **Credits:** 1
CE 502 - Project Management **Credits:** 1
CE 503 - Project Delivery **Credits:** 1
CE 522 - Soil Mechanics I **Credits:** 3
CE 533 - Mechanics of Materials **Credits:** 3
CE 534 - Mechanics of Materials Laboratory **Credits:** 1
CE 537 - Introduction to Structural Analysis **Credits:** 3
CE 563 - Environmental Engineering Fundamentals **Credits:** 3
CE 571 - Introduction to Transportation Engineering **Credits:** 3
CE 585 - Civil Engineering Project **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
DEN 161 - Engineering Problem Solving **Credits:** 1
ENGL 415 - Written Communication for Engineers **Credits:** 3
ME 310 - Elements of Thermodynamics **Credits:** 2
ME 512 - Dynamics **Credits:** 3
CE 550 - Water Resources Engineering **Credits:** 3
OR
BAE 560 - Hydrology for Biological Systems **Credits:** 3
DEN 325 - Engineering Professionalism and Decision Making **Credits:** 1
OR
PHILO 185 - Engineering Ethics **Credits:** 3

Restricted Electives: 18 credit hours

Approved Civil Engineering electives and requirements are provided in the undergraduate student handbook available at https://ce.k-state.edu/academics/undergraduate/

CE 528 - Foundation Engineering **Credits:** 3
CE 544 - Structural Engineering in Concrete **Credits:** 3
CE 552 - Hydraulic Engineering **Credits:** 3
CE 565 - Water and Wastewater Engineering **Credits:** 3
CE 766 - Wastewater Engineering: Biological Processes **Credits:** 3
OR
CE 762 - Water Treatment Processes **Credits:** 3
OR
CE 625 - Principles of Geoenvironmental Engineering **Credits:** 3
OR
CE 654 - Design of Groundwater Flow Systems **Credits:** 3
BIOL 263 - Ecology of Environmental Problems **Credits:** 3
OR
BIOL 330 - Public Health Biology **Credits:** 3

Total Hours Required for Graduation: 128

Notes:

Students must achieve a minimum GPA of 2.250 in the four Civil Engineering (CE) design elective courses that fulfill their 12-hour CE design elective requirement. These electives must be drawn from at least four of the following design areas: Environmental, Geotechnical, Structural, Transportation/Materials, and Water Resources. If a student completes more than 12 hours of CE design electives, the best 12 hours will be used to compute CE Design Elective GPA.

A resident cumulative GPA of 2.300 or better is required for a change of major from any engineering program to civil engineering.

Civil Engineering - General (BS)

The Bachelor of Science (B.S.) in Civil Engineering at Kansas State University is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Civil Engineering Programs.

Bachelor's degree requirements

The civil engineering curriculum requires the completion of 128 credit hours. There are seven available tracks that impact the selection of courses taken to meet the requirements of the track electives and the design electives listed in the senior year of the civil engineering curriculum. The seven tracks are General, Construction Engineering, Environmental Engineering, Geotechnical Engineering, Structural Engineering, Transportation/Materials Engineering, and Water Resources Engineering.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

General

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science: (22-23 credit hours)

CHM 210 - Chemistry I **Credits:** 4
GEOL 100 - Earth in Action **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 **KSC-030**

MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 340 - Elementary Differential Equations **Credits:** 4
PHYS 213 - Engineering Physics I **Credits:** 5 *KSC-040*
Math or Science Course
STAT 510 - Introductory Probability and Statistics I **Credits:** 3

General Requirements: (52-54 credit hours)

CE 015 - Engineering Assembly **Credits:** 0
CE 202 - Civil Engineering Graphics **Credits:** 3
CE 212 - Elementary Surveying Engineering **Credits:** 3
CE 241 - Introduction to Civil Engineering Materials **Credits:** 3
CE 301 - Civil Engineering Problem Solving **Credits:** 1
CE 333 - Statics **Credits:** 3
CE 351 - Incompressible Fluid Mechanics **Credits:** 3
CE 501 - Project Economic Evaluation **Credits:** 1
CE 502 - Project Management **Credits:** 1
CE 503 - Project Delivery **Credits:** 1
CE 522 - Soil Mechanics I **Credits:** 3
CE 533 - Mechanics of Materials **Credits:** 3
CE 534 - Mechanics of Materials Laboratory **Credits:** 1
CE 537 - Introduction to Structural Analysis **Credits:** 3
CE 563 - Environmental Engineering Fundamentals **Credits:** 3
CE 571 - Introduction to Transportation Engineering **Credits:** 3
CE 585 - Civil Engineering Project **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
DEN 161 - Engineering Problem Solving **Credits:** 1
ENGL 415 - Written Communication for Engineers **Credits:** 3
ME 310 - Elements of Thermodynamics **Credits:** 2
ME 512 - Dynamics **Credits:** 3
CE 550 - Water Resources Engineering **Credits:** 3
OR
BAE 560 - Hydrology for Biological Systems **Credits:** 3
DEN 325 - Engineering Professionalism and Decision Making **Credits:** 1
OR
PHILO 185 - Engineering Ethics **Credits:** 3

Restricted Electives: (18 credit hours)

Approved Civil Engineering electives and requirements are provided in the undergraduate student handbook available at https://ce.k-state.edu/academics/undergraduate/

The design elective courses selected should cover at least four different design areas: Environmental, Geotechnical, Structural, Transportation/Materials, and Water Resources.

Choose four design elective courses below:
CE 528 - Foundation Engineering **Credits:** 3
CE 552 - Hydraulic Engineering **Credits:** 3
CE 565 - Water and Wastewater Engineering **Credits:** 3

CE 542 - Structural Engineering in Steel **Credits:** 3
OR
CE 544 - Structural Engineering in Concrete **Credits:** 3
CE 441 - Design of Civil Engineering Materials **Credits:** 3
OR
CE 572 - Highway Engineering **Credits:** 3
Track Electives

Total hours required for graduation: (128)

Notes:

Students must achieve a minimum GPA of 2.250 in the four Civil Engineering (CE) design elective courses that fulfill their 12-hour CE design elective requirement. These electives must be drawn from at least four of the following design areas: Environmental, Geotechnical, Structural, Transportation/Materials, and Water Resources. If a student completes more than 12 hours of CE design electives, the best 12 hours will be used to compute CE Design Elective GPA.

A resident cumulative GPA of 2.300 or better is required for a change of major from any engineering program to civil engineering.

Civil Engineering - Geotechnical (BS)

The Bachelor of Science (B.S.) in Civil Engineering at Kansas State University is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Civil Engineering Programs.

Bachelor's degree requirements

The civil engineering curriculum requires the completion of 128 credit hours. There are seven available tracks that impact the selection of courses taken to meet the requirements of the track electives and the design electives listed in the senior year of the civil engineering curriculum. The seven tracks are General, Construction Engineering, Environmental Engineering, Geotechnical Engineering, Structural Engineering, Transportation/Materials Engineering, and Water Resources Engineering.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Geotechnical

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science: (22-23 credit hours)

CHM 210 - Chemistry I **Credits:** 4
GEOL 100 - Earth in Action **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 *KSC-030*
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 340 - Elementary Differential Equations **Credits:** 4
PHYS 213 - Engineering Physics I **Credits:** 5 *KSC-040*
Math or Science Course
STAT 510 - Introductory Probability and Statistics I **Credits:** 3

Geotechnical Requirements: (52-54 credit hours)

CE 015 - Engineering Assembly **Credits:** 0
CE 202 - Civil Engineering Graphics **Credits:** 3
CE 212 - Elementary Surveying Engineering **Credits:** 3
CE 241 - Introduction to Civil Engineering Materials **Credits:** 3
CE 301 - Civil Engineering Problem Solving **Credits:** 1
CE 333 - Statics **Credits:** 3
CE 351 - Incompressible Fluid Mechanics **Credits:** 3
CE 501 - Project Economic Evaluation **Credits:** 1
CE 502 - Project Management **Credits:** 1
CE 503 - Project Delivery **Credits:** 1
CE 522 - Soil Mechanics I **Credits:** 3
CE 533 - Mechanics of Materials **Credits:** 3
CE 534 - Mechanics of Materials Laboratory **Credits:** 1
CE 537 - Introduction to Structural Analysis **Credits:** 3
CE 563 - Environmental Engineering Fundamentals **Credits:** 3
CE 571 - Introduction to Transportation Engineering **Credits:** 3
CE 585 - Civil Engineering Project **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
DEN 161 - Engineering Problem Solving **Credits:** 1
ENGL 415 - Written Communication for Engineers **Credits:** 3
ME 310 - Elements of Thermodynamics **Credits:** 2
ME 512 - Dynamics **Credits:** 3
CE 550 - Water Resources Engineering **Credits:** 3
OR
BAE 560 - Hydrology for Biological Systems **Credits:** 3
DEN 325 - Engineering Professionalism and Decision Making **Credits:** 1
OR
PHILO 185 - Engineering Ethics **Credits:** 3

Restricted Electives: (18 credit hours)

Approved Civil Engineering electives and requirements are provided in the undergraduate student handbook available at https://ce.k-state.edu/academics/undergraduate/

The design elective courses selected should cover at least four different design areas: Environmental, Geotechnical, Structural, Transportation/Materials, and Water Resources.

CE 528 - Foundation Engineering **Credits:** 3
CE 544 - Structural Engineering in Concrete **Credits:** 3
CE 552 - Hydraulic Engineering **Credits:** 3
CE 572 - Highway Engineering **Credits:** 3
Track Electives
CE 728 - Advanced Geotechnical Design **Credits:** 3

Total Minimum Hours Required for Graduation: 128

Notes:

Students must achieve a minimum GPA of 2.250 in the four Civil Engineering (CE) design elective courses that fulfill their 12-hour CE design elective requirement. These electives must be drawn from at least four of the following design areas: Environmental, Geotechnical, Structural, Transportation/Materials, and Water Resources. If a student completes more than 12 hours of CE design electives, the best 12 hours will be used to compute CE Design Elective GPA.

A resident cumulative GPA of 2.300 or better is required for a change of major from any engineering program to civil engineering.

Civil Engineering - Structural (BS)

The Bachelor of Science (B.S.) in Civil Engineering at Kansas State University is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Civil Engineering Programs.

Bachelor's degree requirements

The civil engineering curriculum requires the completion of 128 credit hours. There are seven available tracks that impact the selection of courses taken to meet the requirements of the track electives and the design electives listed in the senior year of the civil engineering curriculum. The seven tracks are General, Construction Engineering, Environmental Engineering, Geotechnical Engineering, Structural Engineering, Transportation/Materials Engineering, and Water Resources Engineering.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Structural Engineering

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science: (22-23 credit hours)

CHM 210 - Chemistry I **Credits:** 4
GEOL 100 - Earth in Action **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 *KSC-030*
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 340 - Elementary Differential Equations **Credits:** 4
STAT 510 - Introductory Probability and Statistics I **Credits:** 3
Math or Science Course
PHYS 213 - Engineering Physics I **Credits:** 5 *KSC-040*

Structural Engineering Requirements: (52-54 credit hours)

CE 015 - Engineering Assembly **Credits:** 0
CE 202 - Civil Engineering Graphics **Credits:** 3
CE 212 - Elementary Surveying Engineering **Credits:** 3
CE 241 - Introduction to Civil Engineering Materials **Credits:** 3
CE 301 - Civil Engineering Problem Solving **Credits:** 1
CE 333 - Statics **Credits:** 3
CE 351 - Incompressible Fluid Mechanics **Credits:** 3
CE 501 - Project Economic Evaluation **Credits:** 1
CE 502 - Project Management **Credits:** 1
CE 503 - Project Delivery **Credits:** 1
CE 522 - Soil Mechanics I **Credits:** 3
CE 533 - Mechanics of Materials **Credits:** 3
CE 534 - Mechanics of Materials Laboratory **Credits:** 1
CE 537 - Introduction to Structural Analysis **Credits:** 3
CE 563 - Environmental Engineering Fundamentals **Credits:** 3
CE 571 - Introduction to Transportation Engineering **Credits:** 3
CE 585 - Civil Engineering Project **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
DEN 161 - Engineering Problem Solving **Credits:** 1
ENGL 415 - Written Communication for Engineers **Credits:** 3
ME 310 - Elements of Thermodynamics **Credits:** 2
ME 512 - Dynamics **Credits:** 3
CE 550 - Water Resources Engineering **Credits:** 3
OR
BAE 560 - Hydrology for Biological Systems **Credits:** 3
DEN 325 - Engineering Professionalism and Decision Making **Credits:** 1
OR
PHILO 185 - Engineering Ethics **Credits:** 3

Restricted Electives: (18 credit hours)

Approved Civil Engineering electives and requirements are provided in the undergraduate student handbook available at https://ce.k-state.edu/academics/undergraduate/

CE 528 - Foundation Engineering **Credits:** 3
CE 542 - Structural Engineering in Steel **Credits:** 3
CE 544 - Structural Engineering in Concrete **Credits:** 3
CE 552 - Hydraulic Engineering **Credits:** 3
CE 572 - Highway Engineering **Credits:** 3
CE 732 - Advanced Structural Analysis I **Credits:** 3

Total Minimum Hours Required for Graduation: 128

Notes:

Students must achieve a minimum GPA of 2.250 in the four Civil Engineering (CE) design elective courses that fulfill their 12-hour CE design elective requirement. These electives must be drawn from at least four of the following design areas: Environmental, Geotechnical, Structural, Transportation/Materials, and Water Resources. If a student completes more than 12 hours of CE design electives, the best 12 hours will be used to compute CE Design Elective GPA.

A resident cumulative GPA of 2.300 or better is required for a change of major from any engineering program to civil engineering.

Civil Engineering - Transportation/Material (BS)

The Bachelor of Science (B.S.) in Civil Engineering at Kansas State University is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Civil Engineering Programs.

Bachelor's degree requirements

The civil engineering curriculum requires the completion of 128 credit hours. There are seven available tracks that impact the selection of courses taken to meet the requirements of the track electives and the design electives listed in the senior year of the civil engineering curriculum. The seven tracks are General, Construction Engineering, Environmental Engineering, Geotechnical Engineering, Structural Engineering, Transportation/Materials Engineering, and Water Resources Engineering.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Transportation/Material

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science: (22-23 credit hours)

CHM 210 - Chemistry I **Credits:** 4
GEOL 100 - Earth in Action **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 *KSC-030*
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 340 - Elementary Differential Equations **Credits:** 4
PHYS 213 - Engineering Physics I **Credits:** 5 *KSC-040*
Math and Science Course
STAT 510 - Introductory Probability and Statistics I **Credits:** 3

Transportation/Material Requirements: (52-54 credit hours)

CE 015 - Engineering Assembly **Credits:** 0
CE 202 - Civil Engineering Graphics **Credits:** 3
CE 212 - Elementary Surveying Engineering **Credits:** 3
CE 241 - Introduction to Civil Engineering Materials **Credits:** 3
CE 301 - Civil Engineering Problem Solving **Credits:** 1
CE 333 - Statics **Credits:** 3
CE 351 - Incompressible Fluid Mechanics **Credits:** 3
CE 501 - Project Economic Evaluation **Credits:** 1
CE 502 - Project Management **Credits:** 1
CE 503 - Project Delivery **Credits:** 1
CE 522 - Soil Mechanics I **Credits:** 3
CE 533 - Mechanics of Materials **Credits:** 3
CE 534 - Mechanics of Materials Laboratory **Credits:** 1
CE 537 - Introduction to Structural Analysis **Credits:** 3
CE 563 - Environmental Engineering Fundamentals **Credits:** 3
CE 571 - Introduction to Transportation Engineering **Credits:** 3
CE 585 - Civil Engineering Project **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
DEN 161 - Engineering Problem Solving **Credits:** 1
ENGL 415 - Written Communication for Engineers **Credits:** 3
ME 310 - Elements of Thermodynamics **Credits:** 2
ME 512 - Dynamics **Credits:** 3
CE 550 - Water Resources Engineering **Credits:** 3
OR
BAE 560 - Hydrology for Biological Systems **Credits:** 3
DEN 325 - Engineering Professionalism and Decision Making **Credits:** 1
OR
PHILO 185 - Engineering Ethics **Credits:** 3

Restricted Electives: (18 credit hours)

Approved Civil Engineering electives and requirements are provided in the undergraduate student handbook available at https://ce.k-state.edu/academics/undergraduate/

CE 528 - Foundation Engineering **Credits:** 3
CE 544 - Structural Engineering in Concrete **Credits:** 3
CE 552 - Hydraulic Engineering **Credits:** 3
CE 572 - Highway Engineering **Credits:** 3
CE 774 - Pavement Design **Credits:** 3
CE 441 - Design of Civil Engineering Materials **Credits:** 3
OR
CE 775 - Traffic Engineering **Credits:** 3

Total Minimum Hours Required for Graduation: 128

Notes:

Students must achieve a minimum GPA of 2.250 in the four Civil Engineering (CE) design elective courses that fulfill their 12-hour CE design elective requirement. These electives must be drawn from at least four of the following design areas: Environmental, Geotechnical, Structural, Transportation/Materials, and Water Resources. If a student completes more than 12 hours of CE design electives, the best 12 hours will be used to compute CE Design Elective GPA.

A resident cumulative GPA of 2.300 or better is required for a change of major from any engineering program to civil engineering.

Civil Engineering - Water Resources (BS)

The Bachelor of Science (B.S.) in Civil Engineering at Kansas State University is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Civil Engineering Programs.

Bachelor's degree requirements

The civil engineering curriculum requires the completion of 128 credit hours. There are seven available tracks that impact the selection of courses taken to meet the requirements of the track electives and the design electives listed in the senior year of the civil engineering curriculum. The seven tracks are General, Construction Engineering, Environmental Engineering, Geotechnical Engineering, Structural Engineering, Transportation/Materials Engineering, and Water Resources Engineering.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Water Resources

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science: (22-23 credit hours)

CHM 210 - Chemistry I **Credits:** 4
GEOL 100 - Earth in Action **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 *KSC-030*
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 340 - Elementary Differential Equations **Credits:** 4
Math or Science Course
STAT 510 - Introductory Probability and Statistics I **Credits:** 3
PHYS 213 - Engineering Physics I **Credits:** 5 *KSC-040*

Water Resources Requirements: (52-54 credit hours)

CE 015 - Engineering Assembly **Credits:** 0
CE 202 - Civil Engineering Graphics **Credits:** 3
CE 212 - Elementary Surveying Engineering **Credits:** 3
CE 241 - Introduction to Civil Engineering Materials **Credits:** 3
CE 301 - Civil Engineering Problem Solving **Credits:** 1
CE 333 - Statics **Credits:** 3
CE 351 - Incompressible Fluid Mechanics **Credits:** 3
CE 501 - Project Economic Evaluation **Credits:** 1
CE 502 - Project Management **Credits:** 1
CE 503 - Project Delivery **Credits:** 1
CE 522 - Soil Mechanics I **Credits:** 3
CE 533 - Mechanics of Materials **Credits:** 3
CE 534 - Mechanics of Materials Laboratory **Credits:** 1
CE 537 - Introduction to Structural Analysis **Credits:** 3
CE 563 - Environmental Engineering Fundamentals **Credits:** 3
CE 571 - Introduction to Transportation Engineering **Credits:** 3
CE 585 - Civil Engineering Project **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
DEN 161 - Engineering Problem Solving **Credits:** 1
ENGL 415 - Written Communication for Engineers **Credits:** 3
ME 310 - Elements of Thermodynamics **Credits:** 2
ME 512 - Dynamics **Credits:** 3
CE 550 - Water Resources Engineering **Credits:** 3
OR
BAE 560 - Hydrology for Biological Systems **Credits:** 3
DEN 325 - Engineering Professionalism and Decision Making **Credits:** 1
OR
PHILO 185 - Engineering Ethics **Credits:** 3

Restricted Electives: (18 credit hours)

Approved Civil Engineering electives and requirements are provided in the undergraduate student handbook available at https://ce.k-state.edu/academics/undergraduate/

CE 528 - Foundation Engineering **Credits:** 3
CE 552 - Hydraulic Engineering **Credits:** 3
CE 565 - Water and Wastewater Engineering **Credits:** 3
CE 654 - Design of Groundwater Flow Systems **Credits:** 3
CE 542 - Structural Engineering in Steel **Credits:** 3
OR
CE 544 - Structural Engineering in Concrete **Credits:** 3
OR
CE 572 - Highway Engineering **Credits:** 3
CE 751 - Hydraulics of Open Channels **Credits:** 3
OR
CE 752 - Advanced Hydrology **Credits:** 3

Total Minimum Hours Required for Graduation: 128

Notes:

Students must achieve a minimum GPA of 2.250 in the four Civil Engineering (CE) design elective courses that fulfill their 12-hour CE design elective requirement. These electives must be drawn from at least four of the following design areas: Environmental, Geotechnical, Structural, Transportation/Materials, and Water Resources. If a student completes more than 12 hours of CE design electives, the best 12 hours will be used to compute CE Design Elective GPA.

A resident cumulative GPA of 2.300 or better is required for a change of major from any engineering program to civil engineering.

Other Program Choices

Civil Engineering - Construction (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
CE 015 - Engineering Assembly	0	
CE 202 - Civil Engineering Graphics	3	
CHM 210 - Chemistry I	4	
DEN 160 - College of Engineering Orientation	1	

DEN 161 - Engineering Problem Solving	1	
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Credit Hours: 16		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 212 - Elementary Surveying Engineering	3	
CE 301 - Civil Engineering Problem Solving	1	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 221 - Analytic Geometry and Calculus II	4	
PHYS 213 - Engineering Physics I	5	**KSC 040**
Credit Hours: 16		
Second Year		
Semester 1		
CE 015 - Engineering Assembly	0	
CE 241 - Introduction to Civil Engineering Materials	3	
CE 333 - Statics	3	
COMM 106 - Public Speaking I	3	**KSC 020**
Arts & Humanities Requirement	3	**KSC 060**
Math or Science Course	4-5	
Credit Hours: 16-17		

Semester 2		
CE 015 - Engineering Assembly	0	
CE 533 - Mechanics of Materials	3	
CE 534 - Mechanics of Materials Laboratory	1	
GEOL 100 - Earth in Action	3	
MATH 340 - Elementary Differential Equations	4	
ME 512 - Dynamics	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Credit Hours: 17		
Third Year		
Semester 1		
CE 015 - Engineering Assembly	0	
CE 351 - Incompressible Fluid Mechanics	3	
CE 501 - Project Economic Evaluation	1	
CE 537 - Introduction to Structural Analysis	3	
ME 310 - Elements of Thermodynamics	2	
STAT 510 - Introductory Probability and Statistics I	3	
Arts & Humanities Requirement	3	**KSC 060**
Credit Hours: 15		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 522 - Soil Mechanics I	3	
CE 563 - Environmental Engineering Fundamentals	3	

CE 571 - Introduction to Transportation Engineering	3	
ENGL 415 - Written Communication for Engineers	3	
DEN 325 - Engineering Professionalism and Decision Making **OR**	1	
PHILO 185 - Engineering Ethics	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Credit Hours: 16-18		
Fourth Year		
Semester 1		
CE 015 - Engineering Assembly	0	
CE 502 - Project Management	1	
CE 528 - Foundation Engineering	3	
CE 544 - Structural Engineering in Concrete	3	
CE 572 - Highway Engineering	3	
CE 550 - Water Resources Engineering **OR**	3	
BAE 560 - Hydrology for Biological Systems	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Credit Hours: 16		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 441 - Design of Civil Engineering Materials	3	
CE 503 - Project Delivery	1	
CE 542 - Structural Engineering in Steel	3	
CE 552 - Hydraulic Engineering **OR**	3	

CE 565 - Water and Wastewater Engineering	3	
CE 585 - Civil Engineering Project	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Credit Hours: 16		
Total Program Hours: 128		

Civil Engineering - Environmental (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
CE 015 - Engineering Assembly	0	
CE 202 - Civil Engineering Graphics	3	
CHM 210 - Chemistry I	4	
DEN 160 - College of Engineering Orientation	1	
DEN 161 - Engineering Problem Solving	1	
ENGL 100 - Expository Writing I	3	**KSC 010**
Credit Hours: 16		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 212 - Elementary Surveying Engineering	3	
CE 301 - Civil Engineering Problem Solving	1	
ENGL 200 - Expository Writing II	3	**KSC 010**

MATH 221 - Analytic Geometry and Calculus II	4	
PHYS 213 - Engineering Physics I	5	**KSC 040**
Credit Hours: 16		
Second Year		
Semester 1		
CE 015 - Engineering Assembly	0	
CE 241 - Introduction to Civil Engineering Materials	3	
CE 333 - Statics	3	
COMM 106 - Public Speaking I	3	**KSC 020**
Arts & Humanities Requirement	3	**KSC 060**
Math or Science Course	4-5	
Credit Hours: 16-17		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 533 - Mechanics of Materials	3	
CE 534 - Mechanics of Materials Laboratory	1	
GEOL 100 - Earth in Action	3	
MATH 340 - Elementary Differential Equations	4	
ME 512 - Dynamics	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Credit Hours: 17		
Third Year		

Semester 1		
CE 015 - Engineering Assembly	0	
CE 351 - Incompressible Fluid Mechanics	3	
CE 501 - Project Economic Evaluation	1	
CE 537 - Introduction to Structural Analysis	3	
ME 310 - Elements of Thermodynamics	2	
STAT 510 - Introductory Probability and Statistics I	3	
Arts & Humanities Requirement	3	**KSC 060**
Credit Hours: 15		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 522 - Soil Mechanics I	3	
CE 563 - Environmental Engineering Fundamentals	3	
CE 571 - Introduction to Transportation Engineering	3	
ENGL 415 - Written Communication for Engineers	3	
DEN 325 - Engineering Professionalism and Decision Making **OR**	1	
PHILO 185 - Engineering Ethics	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Credit Hours: 16-18		
Fourth Year		
Semester 1		
BIOL 263 - Ecology of Environmental Problems **OR**	3	
BIOL 330 - Public Health Biology	3	

CE 015 - Engineering Assembly	0	
CE 502 - Project Management	1	
CE 528 - Foundation Engineering	3	
CE 544 - Structural Engineering in Concrete	3	
CE 550 - Water Resources Engineering **OR**	3	
BAE 560 - Hydrology for Biological Systems	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Credit Hours: 16		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 503 - Project Delivery	1	
CE 552 - Hydraulic Engineering	3	
CE 565 - Water and Wastewater Engineering	3	
CE 585 - Civil Engineering Project	3	
CE 766 - Wastewater Engineering: Biological Processes **OR**	3	
CE 762 - Water Treatment Processes **OR**	3	
CE 625 - Principles of Geoenvironmental Engineering **OR**	3	
CE 654 - Design of Groundwater Flow Systems	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Credit Hours: 16		
Total Program Hours: 128		

Civil Engineering - General (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
CE 015 - Engineering Assembly	0	
CE 202 - Civil Engineering Graphics	3	
CHM 210 - Chemistry I	4	
DEN 160 - College of Engineering Orientation	1	
DEN 161 - Engineering Problem Solving	1	
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Credit Hours: 16		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 212 - Elementary Surveying Engineering	3	
CE 301 - Civil Engineering Problem Solving	1	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 221 - Analytic Geometry and Calculus II	4	
PHYS 213 - Engineering Physics I	5	**KSC 040**
Credit Hours: 16		
Second Year		
Semester 1		
CE 015 - Engineering Assembly	0	
CE 241 - Introduction to Civil Engineering Materials	3	

CE 333 - Statics	3	
COMM 106 - Public Speaking I	3	**KSC 020**
Arts & Humanities Requirement	3	**KSC 060**
Math or Science Course	4-5	
Total Credits: 16-17		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 533 - Mechanics of Materials	3	
CE 534 - Mechanics of Materials Laboratory	1	
GEOL 100 - Earth in Action	3	
MATH 340 - Elementary Differential Equations	4	
ME 512 - Dynamics	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 17		
Third Year		
Semester 1		
CE 015 - Engineering Assembly	0	
CE 351 - Incompressible Fluid Mechanics	3	
CE 501 - Project Economic Evaluation	1	
CE 537 - Introduction to Structural Analysis	3	
ME 310 - Elements of Thermodynamics	2	
STAT 510 - Introductory Probability and Statistics I	3	
Arts & Humanities Requirement	3	**KSC 060**

Total Credits: 15		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 522 - Soil Mechanics I	3	
CE 563 - Environmental Engineering Fundamentals	3	
CE 571 - Introduction to Transportation Engineering	3	
ENGL 415 - Written Communication for Engineers	3	
DEN 325 - Engineering Professionalism and Decision Making **OR**	1	
PHILO 185 - Engineering Ethics	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16-18		
Fourth Year		
Semester 1		
CE 015 - Engineering Assembly	0	
CE 502 - Project Management	1	
CE 550 - Water Resources Engineering **OR**	3	
BAE 560 - Hydrology for Biological Systems	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Design Elective - CE 528 CE 552 CE 565, CE 542 **OR** CE 544, CE 441 **OR** CE 572	6	
Track Elective	3	
Credit Hours: 16		
Semester 2		

CE 015 - Engineering Assembly	0	
CE 503 - Project Delivery	1	
CE 585 - Civil Engineering Project	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Design Elective - CE 528 CE 552 CE 565, CE 542 **OR** CE 544, CE 441 **OR** CE 572	6	
Track Elective	0-3	
Credit Hours: 13-16		
Total Program Hours: 128		

Civil Engineering - Geotechnical (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
CE 015 - Engineering Assembly	0	
CE 202 - Civil Engineering Graphics	3	
CHM 210 - Chemistry I	4	
DEN 160 - DEN 160	1	
DEN 161 - Engineering Problem Solving	1	
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Credit Hours: 16		
Semester 2		
CE 015 - Engineering Assembly	0	

CE 212 - Elementary Surveying Engineering	3	
CE 301 - Civil Engineering Problem Solving	1	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 221 - Analytic Geometry and Calculus II	4	
PHYS 213 - Engineering Physics I	5	**KSC 040**
Credit Hours: 16		
Second Year		
Semester 1		
CE 015 - Engineering Assembly	0	
CE 241 - Introduction to Civil Engineering Materials	3	
CE 333 - Statics	3	
COMM 106 - Public Speaking I	3	**KSC 020**
Arts & Humanities Requirement	3	**KSC 060**
Math and Science Course	4-5	
Credit Hours: 16-17		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 533 - Mechanics of Materials	3	
CE 534 - Mechanics of Materials Laboratory	1	
GEOL 100 - Earth in Action	3	
MATH 340 - Elementary Differential Equations	4	
ME 512 - Dynamics	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**

Credit Hours: 17		
Third Year		
Semester 1		
CE 015 - Engineering Assembly	0	
CE 351 - Incompressible Fluid Mechanics	3	
CE 501 - Project Economic Evaluation	1	
CE 537 - Introduction to Structural Analysis	3	
ME 310 - Elements of Thermodynamics	2	
STAT 510 - Introductory Probability and Statistics I	3	
Arts & Humanities Requirement	3	**KSC 060**
Credit Hours: 15		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 522 - Soil Mechanics I	3	
CE 563 - Environmental Engineering Fundamentals	3	
CE 571 - Introduction to Transportation Engineering	3	
ENGL 415 - Written Communication for Engineers	3	
DEN 325 - Engineering Professionalism and Decision Making **OR**	1	
PHILO 185 - Engineering Ethics	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Credit Hours: 16-18		
Fourth Year		

Semester 1		
CE 015 - Engineering Assembly	0	
CE 502 - Project Management	1	
CE 528 - Foundation Engineering	3	
CE 544 - Structural Engineering in Concrete	3	
CE 550 - Water Resources Engineering **OR**	3	
BAE 560 - Hydrology for Biological Systems	3	
CE 572 - Highway Engineering	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Credit Hours: 16		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 503 - Project Delivery	1	
CE 552 - Hydraulic Engineering	3	
CE 585 - Civil Engineering Project	3	
CE 728 - Advanced Geotechnical Design	3	
Track Elective	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Credit Hours: 16		
Total Program Hours: 128		

Civil Engineering - Structural (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		

First Year	Hours	K-State Core	
Semester 1			
CE 015 - Engineering Assembly	0		
CE 202 - Civil Engineering Graphics	3		
CHM 210 - Chemistry I	4		
DEN 160 - College of Engineering Orientation	1		
DEN 161 - Engineering Problem Solving	1		
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**	
Total Credits: 16			
Semester 2			
CE 015 - Engineering Assembly	0		
CE 212 - Elementary Surveying Engineering	3		
CE 301 - Civil Engineering Problem Solving	1		
ENGL 200 - Expository Writing II	3	**KSC 010**	
MATH 221 - Analytic Geometry and Calculus II	4		
PHYS 213 - Engineering Physics I	5	**KSC 040**	
Credit Hours: 16			
Second Year			
Semester 1			
CE 015 - Engineering Assembly	0		
CE 241 - Introduction to Civil Engineering Materials	3		
CE 333 - Statics	3		

COMM 106 - Public Speaking I	3	**KSC 020**
Arts & Humanities Requirement	3	**KSC 060**
Math or Science Course	4-5	
Credit Hours: 16-17		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 533 - Mechanics of Materials	3	
CE 534 - Mechanics of Materials Laboratory	1	
GEOL 100 - Earth in Action	3	
MATH 340 - Elementary Differential Equations	4	
ME 512 - Dynamics	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Credit Hours: 17		
Third Year		
Semester 1		
CE 015 - Engineering Assembly	0	
CE 351 - Incompressible Fluid Mechanics	3	
CE 501 - Project Economic Evaluation	1	
CE 537 - Introduction to Structural Analysis	3	
ME 310 - Elements of Thermodynamics	2	
STAT 510 - Introductory Probability and Statistics I	3	
Arts & Humanities Requirement	3	**KSC 060**
Credit Hours: 15		

Semester 2		
CE 015 - Engineering Assembly	0	
CE 522 - Soil Mechanics I	3	
CE 563 - Environmental Engineering Fundamentals	3	
CE 571 - Introduction to Transportation Engineering	3	
ENGL 415 - Written Communication for Engineers	3	
DEN 325 - Engineering Professionalism and Decision Making **OR**	1	
PHILO 185 - Engineering Ethics	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Credit Hours: 16-18		
Fourth Year		
Semester 1		
CE 015 - Engineering Assembly	0	
CE 502 - Project Management	1	
CE 528 - Foundation Engineering	3	
CE 544 - Structural Engineering in Concrete	3	
CE 550 - Water Resources Engineering **OR**	3	
BAE 560 - Hydrology for Biological Systems	3	
CE 572 - Highway Engineering	3	
CE 732 - Advanced Structural Analysis I	3	
Credit Hours: 16		
Semester 2		

CE 015 - Engineering Assembly	0	
CE 503 - Project Delivery	1	
CE 542 - Structural Engineering in Steel	3	
CE 552 - Hydraulic Engineering	3	
CE 585 - Civil Engineering Project	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Credit Hours: 16		
Total Program Hours: 128		

Civil Engineering - Transportation/Material (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
CE 015 - Engineering Assembly	0	
CE 202 - Civil Engineering Graphics	3	
CHM 210 - Chemistry I	4	
DEN 160 - College of Engineering Orientation	1	
DEN 161 - Engineering Problem Solving	1	
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Credit Hours: 16		
Semester 2		

CE 015 - Engineering Assembly	0	
CE 212 - Elementary Surveying Engineering	3	
CE 301 - Civil Engineering Problem Solving	1	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 221 - Analytic Geometry and Calculus II	4	
PHYS 213 - Engineering Physics I	5	**KSC 040**
Credit Hours: 16		
Second Year		
Semester 1		
CE 015 - Engineering Assembly	0	
CE 241 - Introduction to Civil Engineering Materials	3	
CE 333 - Statics	3	
COMM 106 - COMM 106	3	**KSC 020**
Arts & Humanities Requirement	3	**KSC 060**
Math or Science Course	4-5	
Credit Hours: 16-17		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 533 - Mechanics of Materials	3	
CE 534 - Mechanics of Materials Laboratory	1	
GEOL 100 - Earth in Action	3	
MATH 340 - Elementary Differential Equations	4	
ME 512 - Dynamics	3	

Social & Behavioral Science Requirement	3	**KSC 050**
Credit Hours: 17		
Third Year		
Semester 1		
CE 015 - Engineering Assembly	0	
CE 351 - Incompressible Fluid Mechanics	3	
CE 501 - Project Economic Evaluation	1	
CE 537 - Introduction to Structural Analysis	3	
ME 310 - Elements of Thermodynamics	2	
STAT 510 - Introductory Probability and Statistics I	3	
Arts & Humanities Requirement	3	**KSC 060**
Credit Hours: 15		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 522 - Soil Mechanics I	3	
CE 563 - Environmental Engineering Fundamentals	3	
CE 571 - Introduction to Transportation Engineering	3	
ENGL 415 - Written Communication for Engineers	3	
PHILO 185 - Engineering Ethics **OR**	3	
DEN 325 - Engineering Professionalism and Decision Making	1	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Credit Hours: 16-18		

Fourth Year		
Semester 1		
CE 015 - Engineering Assembly	0	
CE 502 - Project Management	1	
CE 528 - Foundation Engineering	3	
CE 544 - Structural Engineering in Concrete	3	
CE 550 - Water Resources Engineering **OR**	3	
BAE 560 - Hydrology for Biological Systems	3	
CE 572 - Highway Engineering	3	
CE 774 - Pavement Design	3	
Credit Hours: 16		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 503 - Project Delivery	1	
CE 552 - Hydraulic Engineering	3	
CE 585 - Civil Engineering Project	3	
CE 775 - Traffic Engineering	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Credit Hours: 16		
Total Program Hours: 128		

Civil Engineering - Water Resources (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
CE 015 - Engineering Assembly	0	
CE 202 - Civil Engineering Graphics	3	
CHM 210 - Chemistry I	4	
DEN 160 - College of Engineering Orientation	1	
DEN 161 - Engineering Problem Solving	1	
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Total Credits: 16		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 212 - Elementary Surveying Engineering	3	
CE 301 - Civil Engineering Problem Solving	1	
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 221 - Analytic Geometry and Calculus II	4	
PHYS 213 - Engineering Physics I	5	**KSC 040**
Total Credits: 16		
Second Year		
Semester 1		
CE 015 - Engineering Assembly	0	
CE 241 - Introduction to Civil Engineering Materials	3	

CE 333 - Statics	3	
COMM 106 - Public Speaking I	3	**KSC 020**
Arts & Humanities Requirement	3	**KSC 060**
Math or Science Course	4-5	
Total Credits: 16-17		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 533 - Mechanics of Materials	3	
CE 534 - Mechanics of Materials Laboratory	1	
GEOL 100 - Earth in Action	3	
MATH 340 - Elementary Differential Equations	4	
ME 512 - Dynamics	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 17		
Third Year		
Semester 1		
CE 015 - Engineering Assembly	0	
CE 351 - Incompressible Fluid Mechanics	3	
CE 501 - Project Economic Evaluation	1	
CE 537 - Introduction to Structural Analysis	3	
ME 310 - Elements of Thermodynamics	2	
STAT 510 - Introductory Probability and Statistics I	3	
Arts & Humanities Requirement	3	**KSC 060**

Total Credits: 15		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 522 - Soil Mechanics I	3	
CE 563 - Environmental Engineering Fundamentals	3	
CE 571 - Introduction to Transportation Engineering	3	
ENGL 415 - Written Communication for Engineers	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
DEN 325 - Engineering Professionalism and Decision Making **OR**	1	
PHILO 185 - Engineering Ethics	3	
Total Credits: 16-18		
Fourth Year		
Semester 1		
CE 015 - Engineering Assembly	0	
CE 502 - Project Management	1	
CE 528 - Foundation Engineering	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
CE 751 - Hydraulics of Open Channels **OR**	3	
CE 752 - Advanced Hydrology	3	
CE 542 - Structural Engineering in Steel **OR**	3	
CE 544 - Structural Engineering in Concrete **OR**	3	
CE 572 - Highway Engineering	3	
BAE 560 - Hydrology for Biological Systems **OR**	3	

CE 550 - Water Resources Engineering	3	
Total Credits: 16		
Semester 2		
CE 015 - Engineering Assembly	0	
CE 503 - Project Delivery	1	
CE 552 - Hydraulic Engineering	3	
CE 565 - Water and Wastewater Engineering	3	
CE 585 - Civil Engineering Project	3	
CE 654 - Design of Groundwater Flow Systems	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Total Program Hours: 128		

Computer Science

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Computer Science

Computer science is the study of computing and its possibilities, ranging from theoretical foundations to applications in business, society and the sciences.

The Bachelor of Science in Computer Science degree program emphasizes a broad foundation of computer organization, software engineering, distributed computing systems, data structures, programming environments and mathematics, together with electives that focus on advanced aspects and applications. An entrepreneurship option prepares graduates for entrepreneurial activities that are common in the computing industry.

Cybersecurity

Cybersecurity is the study of processes for protecting systems, networks, programs and information from digital attacks. The Bachelor of Science in Cybersecurity degree program emphasizes a broad foundation of computer science with in-depth study of principles and practices for secure computing.

Bachelor of Science

Computer Science (BS)

The Bachelor of Science (B.S.) in computer science at Kansas State University is accredited by the Computing Accreditation Commission of ABET, http://www.abet.org under the General Criteria and the Computer Science and similarly named Computing Programs Criteria.

The curriculum includes pre-professional and professional programs. All new students will be initially admitted to the pre-professional program.

Admission to the Pre-Professional Program
New students, including transfer students, should submit the standard application form directly to the Office of Admissions. The admission criteria are the same as those for the university and the College of Engineering.

Any student who has completed more than 15 credit hours at Kansas State University in any major outside the College of Engineering may change majors into the pre-professional program provided that the student meets the admission requirements for the College of Engineering. A resident cumulative GPA of 2.3 or better is required for a change of major from any Engineering program to the pre-professional program Computer Science.

Course Requirements (24 total credits)
The course requirements and semester-by-semester curriculum for a BS in Computer Science remain in effect. However, certain courses from the first three semesters of the curriculum must be completed with a C or better for advancement beyond the pre-professional program. These courses are:

MATH 220 Analytic Geometry and Calculus I
MATH 221 Analytic Geometry and Calculus II
CIS 115 Introduction to Computing Science
CIS 116 Introduction to Programming
CIS 115 - Introduction to Computing ScienceCIS 200 Programming Fundamentals
CIS 300 Data and Program Structures
CIS 301 Logical Foundations of Programming
ECE 241 Introduction to Electrical and Computer Engineering

Admission to the Professional Program

Students must complete the pre-professional program and be accepted to the professional program prior to taking any of the following courses, which we will refer to as professional program courses:

CIS 400 Object-Oriented Design, Implementation, and Testing
CIS 415 Ethics and Conduct for Computing Professionals
CIS 450 Computer Architecture and Operations
CIS 501 Software Architecture and Design
CIS 505 Introduction to Programming Languages
CIS 520 Operating Systems I
CIS 525 Introduction to Network Programming
CIS 560 Database System Concepts
CIS 575 Introduction to Algorithm Analysis
CIS 596 Entrepreneurial Computer Science Project
CIS 598 Computer Science Project
CIS 599 Cybersecurity Project

CIS 625 Concurrent Software Systems
CIS 642 Software Engineering Project I

The only other students who will be allowed to enroll in any of the above courses are non-CS majors who need these specific courses to satisfy the degree requirements of their majors. Non-CS majors wishing to use any of these courses to satisfy elective requirements for their majors will also be considered on a case-by-case basis.

In order to be considered for admission to the professional program, a student must have:

Passed all pre-professional program courses with a C or better.
Achieved at least a 2.3 GPA on all pre-professional courses (including transfer courses).

Additionally, an application to the professional program must be submitted to the Department of Computer Science by March 31st for subsequesnt Fall semester admission or October 31 for subsequent Spring semester admission. This submission will be immediately prior to the student's pre-enrollment into any of the professional program courses.

All courses in the pre-professional program must be completed and all grade criteria must be met by the end of the semester that the application is submitted. An exception to this rule is the student who expects to complete these criteria during the summer term. Those students should also make application in the Spring semester prior to pre-enrollment. All eligible applicants will be allowed to pre-enroll into professional program courses with the understanding that they will be dropped if they are not accepted for admission to the professional program prior to the beginning of the subsequent semester.

Applications will be reviewed by the Academic Standards Committee of the Department and accepted or rejected as soon as possible after semester grades are issued. The number of students admitted in any given semester will be limited by the number of seats available. If the number of applicants who meet the grade requirements listed above exceeds the number of seats available, then in addition to the minimum grade requirements listed above, the admission will be determined a holistic evaluation of the following factors:

Grades in college-level courses, particularly computing courses;
Communication skills;
Activities and service;
Socioeconomic disadvantage;
Status as first-generation college student; and
History of overcoming personal hardship.

Students who have completed the pre-professional program with the required grades, but are denied admission, may re-apply in a later semester.

Academic Standards

After admission to the professional program, students are expected to attain "C" or better grades in each of the professional program courses taken. Specifically, students will be subject to the following academic standards that are more stringent than those for the University.

Warning of unsatisfactory progress

Regardless of the overall GPA, a student with any "D" or "F" grade in any professional program course will receive a "Warning of Unsatisfactory Progress. This warning will remain in effect for the remainder of their stay in the professional program.

Dismissal from the Program

If a student has received a warning of unsatisfactory progress, then subsequently receives a "D" or "F" grade in any professional program course, that student may be dismissed from the professional program, and will be ineligible to enroll in any professional program courses (though students who transfer to either Computer Engineering or Biomedical Engineering will be allowed to enroll in certain courses, as outlined above).

Readmission

A student who has been dismissed from the professional program may petition to be readmitted to the program, provided at least one year has elapsed from the conclusion of the last semester that the student was in the program to the beginning of the semester for which the student is seeking admission. The petition must include a justification of

the student's preparedness to complete the program. This petition must be submitted to the Computer Science Department by the eighth week of the Fall or Spring semester preceding the semester for which the student seeks readmission. The student will be interviewed by the Acadmic Standards Committee, who will then make a decision in time for the student to pre-enroll. All readmitted students will remain on warning of unsatisfactory progress for the remainder of their stay in the professional program.

**The warning and dismissal actions referenced above are departmental actions that are separate and distinct from Academic Warning and Academic Dismissal as defined by the University Catalog. Grades earned during an intersession will not be considered by the Department in the determination of unsatisfactory academic progress by the department.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science Requirements: 14 credit hours

MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 510 - Discrete Mathematics **Credits:** 3
STAT 510 - Introductory Probability and Statistics I **Credits:** 3

Computer Science Requirements: 38 credit hours

CIS 115 - Introduction to Computing Science **Credits:** 2
CIS 116 - Introduction to Programming **Credits:** 1
CIS 200 - Programming Fundamentals **Credits:** 4
CIS 300 - Data and Program Structures **Credits:** 3
CIS 301 - Logical Foundations of Programming **Credits:** 3
CIS 308 - C Language Laboratory **Credits:** 1
CIS 400 - Object-Oriented Design, Implementation, and Testing **Credits:** 3
CIS 415 - Ethics and Conduct for Computing Professionals **Credits:** 3
CIS 450 - Computer Architecture and Operations **Credits:** 3
CIS 501 - Software Architecture and Design **Credits:** 3

CIS 505 - Introduction to Programming Languages **Credits:** 3
CIS 560 - Database System Concepts **Credits:** 3
CIS 575 - Introduction to Algorithm Analysis **Credits:** 3
ECE 241 - Introduction to Electrical and Computer Engineering **Credits:** 3

Restricted Electives: 35 credit hours

Technical Writing - Choose one of the following:
ENGL 415 - Written Communication for Engineers **Credits:** 3
OR
ENGL 516 - Written Communication for the Sciences **Credits:** 3
Required Technical Elective - Choose one of the following:
CIS 520 - Operating Systems I **Credits:** 3
OR
CIS 525 - Introduction to Network Programming **Credits:** 3
OR
CIS 625 - Concurrent Software Systems **Credits:** 3
Capstone - Choose between: CIS 642 and CIS 643, CIS 598, or CIS 599
CIS 598 - Computer Science Project **Credits:** 3
CIS 599 - Cybersecurity Project **Credits:** 3
CIS 642 - Software Engineering Project I **Credits:** 3
CIS 643 - Software Engineering Project II **Credits:** 3 , applied toward Technical Electives below
Technical Electives - see https://www.cs.ksu.edu/
Natural Science - see https://www.cs.ksu.edu/ (KSC #4)
Natural Science - see https://www.cs.ksu.edu/
Math Elective - see https://www.cs.ksu.edu/
Upper Division Electives - any courses at the 300 level or above

Unrestricted Electives: 6 credit hours

Entrepreneurship Option

Math and Science Requirements: 14 credit hours

MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 510 - Discrete Mathematics **Credits:** 3
STAT 510 - Introductory Probability and Statistics I **Credits:** 3

Computer Science - Entrepreneurship Option Requirements: 47 credit hours

CIS 115 - Introduction to Computing Science **Credits:** 2
CIS 116 - Introduction to Programming **Credits:** 1
CIS 200 - Programming Fundamentals **Credits:** 4
CIS 300 - Data and Program Structures **Credits:** 3

CIS 301 - Logical Foundations of Programming **Credits:** 3
CIS 308 - C Language Laboratory **Credits:** 1
CIS 400 - Object-Oriented Design, Implementation, and Testing **Credits:** 3
CIS 415 - Ethics and Conduct for Computing Professionals **Credits:** 3
CIS 450 - Computer Architecture and Operations **Credits:** 3
CIS 501 - Software Architecture and Design **Credits:** 3
CIS 505 - Introduction to Programming Languages **Credits:** 3
CIS 560 - Database System Concepts **Credits:** 3
CIS 575 - Introduction to Algorithm Analysis **Credits:** 3
CIS 596 - Entrepreneurial Computer Science Project **Credits:** 3
ECE 241 - Introduction to Electrical and Computer Engineering **Credits:** 3
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset **Credits:** 3
ENTRP 575 - Entrepreneurship and Innovation Capstone **Credits:** 3

Restricted Electives: 28 credit hours

Technical Writing - Choose one of the following:
ENGL 415 - Written Communication for Engineers **Credits:** 3
OR
ENGL 516 - Written Communication for the Sciences **Credits:** 3
Choose one of the following:
CIS 520 - Operating Systems I **Credits:** 3
OR
CIS 525 - Introduction to Network Programming **Credits:** 3
OR
KSC-040
CIS 625 - Concurrent Software Systems **Credits:** 3
Natural Science - see https://www.cs.ksu.edu/
Natural Science - see https://www.cs.ksu.edu/
Math Elective - see https://www.cs.ksu.edu/
Entrepreneurship Electives: 9 hours from ENTRP 350, ENTRP 411, ENTRP 435, ENTRP 466, ENTRP 497, ENTRP 520, ENTRP 540, FINAN 561, MANGT 230, MANGT 520, MANGT 531
Additional Electives: At least 9 hours of Entrepreneurship Electives and/or Additional Electives must be at the 300 level or above

Notes

To graduate with a B.S. in Computer Science, students must have at least a 2.3 GPA in all classes at the 400 level or above taken for undergraduate credit from the Carl R. Ice College of Engineering at Kansas State University. Course grades that have been removed by the K-State Retake policy will not apply to this GPA calculation.
Math and Natural Science electives must have departmental approval.
Upper division electives may be any courses at the 300 level or above.
Students who satisfy all or part of K-State Core Electives with courses that satisfy other degree requirements may use additional unrestricted electives to meet the degree requirement of 120 credit hours.

Communications overlay

All students must complete at least two courses, which may be used as unrestricted electives or, where applicable, K-State Core requirements, from the following list:

COMM 323 - Nonverbal Communication **Credits:** 3

Any K-State Core Communication course

KSC-020

COMM 326 - Group Communication **Credits:** 3

MANGT 220 - Principles of Management **Credits:** 3

THTRE 171 - Fundamentals of Acting **Credits:** 3

Restricted electives must be comprised of the following:

Either CIS 520-Operating Systems I, CIS 525-Introduction to Network Programming, or CIS 625-Concurrent Software Systems.

A capstone experience consisting of either CIS 598-Computer Science Project, CIS 599 Cybersecurity Project, or the two-semester course consisting of CIS 642-Software Engineering Project I and CIS 643-Software Engineering Project II.

Additional 500-level or higher CIS courses or other approved computing-related courses to bring the total number of technical elective credits to 12.

Total Hours Required for Graduation: 120

Cybersecurity (BS)

The Bachelor of Science (B.S.) in cybersecurity at Kansas State University is accredited by the Computing Accreditation Commission of ABET, https://www.abet.org under the General Criteria and the Computer Science and similarly named Computing Programs Criteria.

The B.S. degree in cybersecurity provides a foundation in computer science with in-depth study of principles and practices for secure computing. The curriculum includes pre-professional and professional programs. All new students will be initially admitted to the pre-professional program.

Pre-professional program

The pre-professional program consists of the following courses, which can normally be completed during the first three semesters:

MATH 220 Analytic Geometry and Calculus I

MATH 221 Analytic Geometry and Calculus II

CIS 115 Introduction to Computing Science

CIS 116 Introduction to Programming

CIS 200 Programming Fundamentals

CIS 300 Data and Program Structures

CIS 301 Logical Foundations of Programming

ECE 241 Introduction to Electrical and Computer Engineering

Admission to the professional program

Students must complete the pre-professional program and be accepted to the professional program prior to taking any of the following courses, which we will refer to as professional program courses:

CIS 400 Object-Oriented Design, Implementation, and Testing

CIS 415 Ethics and Conduct for Computing Professionals

CIS 450 Computer Architecture and Operations

CIS 501 Software Architecture and Design

CIS 505 Introduction to Programming Languages

CIS 525 Introduction to Network Programming

CIS 551 Fundamentals of Computer and Information Security
CIS 553 Fundamentals of Cryptography
CIS 560 Database System Concepts
CIS 575 Introduction to Algorithm Analysis
CIS 599 Cybersecurity Project
CIS 655 Security and Reliability of Computing Systems
CIS 755 Systems Security

The only other students who will be allowed to enroll in any of the above courses are non-cybersecurity majors who need these specific courses to satisfy the degree requirements of their majors. Non-cybersecurity majors wishing to use any of these courses to satisfy elective requirements for their majors will also be considered on a case-by-case basis.

In order to be considered for admission to the professional program, a student must have:

Passed all pre-professional program courses with a C or better.

Achieved at least a 2.3 GPA on all pre-professional courses (including transfer courses).

Additionally, an application to the professional program must be submitted to the Department of Computer Science March 31 for subsequent Fall semester admission or October 31 for subsequent Spring semester admission. This submission will be immediately prior to the student's pre-enrollment into any of the professional program courses.

All courses in the pre-professional program must be completed and all grade criteria must be met by the end of the semester that the application is submitted. An exception to this rule is the student who expects to complete these criteria during the summer term. Those students should also make application in the Spring semester prior to pre-enrollment. All eligible applicants will be allowed to pre-enroll into professional program courses with the understanding that they will be dropped if they are not accepted for admission to the professional program prior to the beginning of the subsequent semester.

Applications will be reviewed by the Academic Standards Committee of the Department and accepted or rejected as soon as possible after semester grades are issued. The number of students admitted in any given semester will be limited by the number of seats available. If the number of applicants who meet the grade requirements listed above exceeds the number of seats available, then in addition to the minimum grade requirements listed above, the admission will be determined a holistic evaluation of the following factors:

Grades in college-level courses, particularly computing courses;

Communication skills;

Activities and service;

Socioeconomic disadvantage;

Status as first-generation college student; and

History of overcoming personal hardship.

Students who have completed the pre-professional program with the required grades, but are denied admission, may re-apply in a later semester. Students who have been dismissed from the Computer Science professional program must be readmitted to that program prior to being admitted to the Cybersecurity professional program.

Academic Standards

After admission to the professional program, students are expected to attain "C" or better grades in each of the professional program courses taken. Specifically, students will be subject to the following academic standards that are more stringent than those for the University.

Warning of unsatisfactory progress. Regardless of the overall GPA, a student with any "D" or "F" grade in any professional program course will receive a "**Warning of Unsatisfactory Progress.**" This warning will remain in effect for the remainder of their stay in the professional program.

Dismissal from the program. If a student has received a warning of unsatisfactory progress, then subsequently receives a "D" or "F" grade in any professional program course, that student may be dismissed from the professional program, and will be ineligible to enroll in any professional program courses (though students who transfer to either Computer Engineering or Biomedical Engineering will be allowed to enroll in certain courses, as outlined above).

Readmission. A student who has been dismissed from the professional program may petition to be readmitted to the program, provided at least one year has elapsed from the conclusion of the last semester that the student was in the program to the beginning of the semester for which the student is seeking admission. The petition must include a justification of the student's preparedness to complete the program. This petition must be submitted to the Computer Science Department by the eighth week of the Fall or Spring semester preceding the semester for which the student seeks readmission. The student will be interviewed by the Academic Standards Committee, who will then make a decision in time for the student to pre-enroll. All readmitted students will remain on warning of unsatisfactory progress for the remainder of their stay in the professional program.

The warning and dismissal actions referenced above are departmental actions that are separate and distinct from Academic Warning and Academic Dismissal as defined by the University Catalog. Grades earned during an intersession will not be considered by the Department in the determination of unsatisfactory academic progress by the department.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science Requirements: 14 credit hours

MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
KSC 030
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 510 - Discrete Mathematics **Credits:** 3
STAT 510 - Introductory Probability and Statistics I **Credits:** 3

Cybersecurity Requirements: 56 credit hours

CIS 115 - Introduction to Computing Science **Credits:** 2
CIS 116 - Introduction to Programming **Credits:** 1
CIS 200 - Programming Fundamentals **Credits:** 4
CIS 300 - Data and Program Structures **Credits:** 3
CIS 301 - Logical Foundations of Programming **Credits:** 3
CIS 308 - C Language Laboratory **Credits:** 1
CIS 400 - Object-Oriented Design, Implementation, and Testing **Credits:** 3
CIS 415 - Ethics and Conduct for Computing Professionals **Credits:** 3
CIS 450 - Computer Architecture and Operations **Credits:** 3
CIS 501 - Software Architecture and Design **Credits:** 3
CIS 505 - Introduction to Programming Languages **Credits:** 3
CIS 525 - Introduction to Network Programming **Credits:** 3
CIS 551 - Fundamentals of Computer and Information Security **Credits:** 3
CIS 553 - Fundamentals of Cryptography **Credits:** 3
CIS 560 - Database System Concepts **Credits:** 3
CIS 575 - Introduction to Algorithm Analysis **Credits:** 3
CIS 599 - Cybersecurity Project **Credits:** 3
CRIM 550 - Cybercrime, Security, and Society **Credits:** 3
ECE 241 - Introduction to Electrical and Computer Engineering **Credits:** 3
KSC 050
SOCIO 211 - Introduction to Sociology **Credits:** 3

Restricted Electives: 17 credit hours

Technical Writing - Choose one of the following:
ENGL 415 - Written Communication for Engineers **Credits:** 3
OR
ENGL 516 - Written Communication for the Sciences **Credits:** 3
Cybersecurity Elective - Choose one of the following:
CIS 655 - Security and Reliability of Computing Systems **Credits:** 3
OR
CIS 755 - Systems Security **Credits:** 3
Math Elective - see https://www.cs.ksu.edu/
Physics - Choose a group:
PHYS 113 - General Physics I **Credits:** 4
AND
PHYS 114 - General Physics II **Credits:** 4
OR
PHYS 213 - Engineering Physics I **Credits:** 5
AND
PHYS 214 - Engineering Physics II **Credits:** 5
OR
AND
PHYS 224 - Physics II, Electromagnetism, and Sound **Credits:** 5

Unrestricted Electives: 4 credit hours

Notes

To graduate with a B.S. in Cybersecurity, students must have at least a 2.3 GPA in all classes at the 400 level or above taken for undergraduate credit from the Carl R. Ice College of Engineering at Kansas State University. Course grades that have been removed by the K-State Retake policy will not apply to this GPA calculation.

The Math elective must have departmental approval.

Students who satisfy all or part of K-State Core Natural and Physical Sciences Electives (Requirement #4) and/or Free Electives (Requirement #7) with courses that satisfy other degree requirements may use additional unrestricted electives to meet the degree requirement of 120 credit hours.

Communications overlay

All students must complete at least two courses, which may be used as unrestricted electives or, where applicable, K-State Core requirements, from the following list:

COMM 323 - Nonverbal Communication **Credits:** 3
Any K-State Core Communication course
KSC-020
COMM 326 - Group Communication **Credits:** 3
MANGT 220 - Principles of Management **Credits:** 3
THTRE 171 - Fundamentals of Acting **Credits:** 3
THTRE 265 - Fundamentals of Improvisation I, II **Credits:** 3

Total Hours Required for Graduation: 120

Minor

Computer Science Minor

A minors program has been created to enable students to take 16 credit hours or more in an area of special interest outside their major field. Minors may be earned in a variety of areas including chemistry, leadership, business, computer science, and engineering management. Contact the College of Engineering Student Services Office for further information.

Upon completion of the requirements established by the faculty responsible for the minor field, an appropriate entry will be made on the student's transcript.

Program requirements (16 credit hours)

Prerequisites (in addition to any prerequisites for the required courses):
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Required courses

CIS 115 - Introduction to Computing Science **Credits:** 2
CIS 116 - Introduction to Programming **Credits:** 1
CIS 200 - Programming Fundamentals **Credits:** 4
CIS 300 - Data and Program Structures **Credits:** 3
CIS 301 - Logical Foundations of Programming **Credits:** 3
ECE 241 - Introduction to Electrical and Computer Engineering **Credits:** 3

Total hours required: 16

Undergraduate Certificate

Computer Science Undergraduate Certificate

The main purpose of the Computer Science Certificate program is to provide a scalable mechanism to educate a wide variety of students in the core knowledge of computer science. The courses in this program will prepare students to work with or as software developers in a wide variety of fields and industries. The main focus of the courses is to develop the programming skills and insight required for such jobs.

Admission Procedures

The certificate program is open to any student admitted to a K-State degree program. The program will also be open to non-degree seeking students who apply to K-State as a non-degree seeking students.

Non-K-State Students must apply to K-State as non-degree seeking undergraduate by completing the online application form.

Students currently enrolled in a K-State degree program must complete the online Application for Undergraduate Certificate Program on the Computer Science webpage, similar to a minor declaration (see https://www.cs.ksu.edu/undergraduate/minor-certificate/).

Required Courses (17 credit hours)

CC 110 - Introduction to Computing **Credits:** 2
CC 111 - Elements of Computer Programming **Credits:** 1
CC 120 - Web Page Development **Credits:** 3
CC 210 - Fundamental Computer Programming Concepts **Credits:** 4
CC 310 - Data Structures and Algorithms I **Credits:** 3
CC 410 - Advanced Programming **Credits:** 4

At most two of the above courses may be replaced by equivalent transfer courses.
Students must earn a minimum GPA of 2.3 for courses within the certificate program to qualify for the certificate.
Note: All of these courses are delivered through a state-of-the-art online computer science educational platform.

Other Program Choices

Computer Science (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
CIS 115 - Introduction to Computing Science	2	

CIS 116 - Introduction to Programming	1	
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
ENGL 100 - Expository Writing I	3	**KSC 010**
Communication Requirement	3	**KSC 020**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Semester 2		
CIS 200 - Programming Fundamentals	4	
ECE 241 - Introduction to Electrical and Computer Engineering	3	
MATH 221 - Analytic Geometry and Calculus II	4	
Natural & Physical Sciences Requirement - with Lab	4	**KSC 040**
Total Credits: 15		
Second Year		
Semester 1		
CIS 300 - Data and Program Structures	3	
CIS 301 - Logical Foundations of Programming	3	
Natural Science Elective with laboratory	4	
ENGL 200 - Expository Writing II	3	**KSC 010**
Total Credits: 13		
Semester 2		
CIS 400 - Object-Oriented Design, Implementation, and Testing	3	
CIS 415 - Ethics and Conduct for Computing Professionals	3	

MATH 510 - Discrete Mathematics	3	
Unrestricted Electives	6	
Total Credits: 15		
Third Year		
Semester 1		
CIS 308 - C Language Laboratory	1	
CIS 501 - Software Architecture and Design	3	
CIS 505 - Introduction to Programming Languages	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
CIS 450 - Computer Architecture and Operations	3	
CIS 560 - Database System Concepts	3	
CIS 575 - Introduction to Algorithm Analysis	3	
ENGL 415 - Written Communication for Engineers **OR**	3	
ENGL 516 - Written Communication for the Sciences	3	
STAT 510 - Introductory Probability and Statistics I	3	
Total Credits: 15		
Fourth Year		
Semester 1		

Technical Electives	6	
Math Elective	3	
Arts & Humanities Requirement	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
Technical Elective	6	
Upper Division Elective	9	
Total Credits: 15		
Total Program Hours: 120		

Cybersecurity (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
CIS 115 - Introduction to Computing Science	2	
CIS 116 - Introduction to Programming	1	
ENGL 100 - Expository Writing I	3	**KSC 010**
COMM 106 - Public Speaking I	3	**KSC 020**
Arts & Humanities Requirement	3	**KSC 060**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
Total Credits: 16		

Semester 2		
PHYS 113 - General Physics I **OR**	4	**KSC 040**
PHYS 213 - Engineering Physics I **OR**	5	
PHYS 223 - Physics I, Mechanics, and Thermodynamics	5	
CIS 200 - Programming Fundamentals	4	
ECE 241 - Introduction to Electrical and Computer Engineering	3	
MATH 221 - Analytic Geometry and Calculus II	4	
Total Credits: 15-16		
Second Year		
Semester 1		
CIS 300 - Data and Program Structures	3	
CIS 301 - Logical Foundations of Programming	3	
PHYS 114 - General Physics II **OR**	4	
PHYS 214 - Engineering Physics II **OR**	5	
PHYS 224 - Physics II, Electromagnetism, and Sound	5	
ENGL 200 - Expository Writing II	3	**KSC 010**
Total Credits: 13-14		
Semester 2		
SOCIO 211 - Introduction to Sociology	3	**KSC 050**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
CIS 400 - Object-Oriented Design, Implementation, and Testing	3	
CIS 415 - Ethics and Conduct for Computing Professionals	3	
MATH 510 - Discrete Mathematics	3	

Total Credits: 15		
Third Year		
Semester 1		
CIS 308 - C Language Laboratory	1	
CIS 501 - Software Architecture and Design	3	
CIS 505 - Introduction to Programming Languages	3	
CRIM 550 - Cybercrime, Security, and Society	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Semester 2		
CIS 450 - Computer Architecture and Operations	3	
CIS 553 - Fundamentals of Cryptography	3	
CIS 575 - Introduction to Algorithm Analysis	3	
ENGL 415 - Written Communication for Engineers **OR**	3	
ENGL 516 - Written Communication for the Sciences	3	
STAT 510 - Introductory Probability and Statistics I	3	
Total Credits: 15		
Fourth Year		
Semester 1		
CIS 551 - Fundamentals of Computer and Information Security	3	
CIS 525 - Introduction to Network Programming	3	

CIS 560 - Database System Concepts	3	
Math Elective	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		
CIS 655 - Security and Reliability of Computing Systems **OR**	3	
CIS 755 - Systems Security	3	
CIS 599 - Cybersecurity Project	3	
Natural and Physical Sciences Requirement	4-5	
Unrestricted Elective	3-4	
Total Credits: 13-15		
Total Program Hours: 120		

Electrical and Computer Engineering

Mike Wiegers Department of Electrical and Computer Engineering

3108 Engineering Hall
785-532-5600
ece@k-state.edu
ece.k-state.edu

Electrical Engineering

The electrical engineering curriculum establishes a theoretical basis in circuits, electronics, electromagnetics, energy conversion and controls. It includes a strong laboratory experience stressing system design and implementation. Three areas of emphasis are available: bioengineering, electronics and communications, and power systems.

Computer Engineering

The computer engineering curriculum establishes a theoretical basis for computer components in circuits, electronics, electromagnetics, digital systems, and microprocessors and for software in programming languages, algorithms, data structures

and operating systems. A strong laboratory experience stressing digital and microprocessor system design and implementation is included.

Biomedical Engineering

Biomedical engineering applies engineering principles to design challenges faced by the medical and life science communities. Graduates from the biomedical engineering program can anticipate designing medical devices and computer software for health care applications. Four areas of emphasis are available: Sensors & Devices, Computation, Biomaterials, and Pre-Medicine.

Bachelor of Science

Biomedical Engineering (BS)

The Bachelor of Science (B.S.) in biomedical engineering at Kansas State University is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Bioengineering and Biomedical and Similarly Named Engineering Programs.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program

For the good and benefit of the student and their future employer, the ECE department enforces a C-prerequisite policy for all courses listed by number in the curriculum and for any in-major technical elective course applied toward the degree. A grade of C or better must be earned in all prerequisites to such a course before enrolling in that course.
The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science Requirements: (40 credit hours)

BIOL 198 - Principles of Biology **Credits:** 4
BIOL 441 - Human Body I **Credits:** 4
BIOL 442 - Human Body II **Credits:** 4
CHM 210 - Chemistry I **Credits:** 4
CHM 230 - Chemistry II **Credits:** 4
CHM 531 - Organic Chemistry I **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 **KSC 030**
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4

MATH 340 - Elementary Differential Equations **Credits:** 4
PHYS 213 - Engineering Physics I **Credits:** 5 **KSC 040**
PHYS 214 - Engineering Physics II **Credits:** 5

Biomedical Engineering Requirements: (40 credit hours)

BME 200 - Introduction to Biomedical Engineering **Credits:** 3
BME 390 - BME Skill Development Experience **Credits:** 2
BME 430 - Biomaterials **Credits:** 3
BME 470 - Biomedical Device Components **Credits:** 3
BME 490 - Undergraduate BME Design Experience I **Credits:** 1
BME 575 - Clinical Systems Engineering **Credits:** 3
BME 590 - Senior Design Experience I **Credits:** 3
BME 591 - Senior Design Experience II **Credits:** 2
BME 674 - Medical Imaging **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
DEN 161 - Engineering Problem Solving **Credits:** 1
ECE 512 - Linear Systems **Credits:** 3
ECE 519 - Electric Circuits for Engineers **Credits:** 3
ECE 540 - Applied Scientific Computing for Engineers **Credits:** 3
ME 212 - Engineering Graphics **Credits:** 2
ECE 772 - Theory and Techniques of Bioinstrumentation **Credits:** 2
ECE 773 - Bioinstrumentation Design Laboratory **Credits:** 1

Restricted Electives: (12 credit hours)

*Technical electives must be selected to complete one of the option areas. See department website for list of areas and options and required electives: https://ece.k-state.edu/academics/undergraduate/biomedical-engineering/

Notes

*Emphasis electives must come from lists of approved courses.

**Typically only offered in one semester

Students who participate in exchange programs or transfer in from outside the United States may request waivers of this policy. Waivers must be obtained in advance of the exchange semester.

Total Hours Required for Graduation: 128

Computer Engineering (BS)

The Bachelor of Science (B.S.) in computer engineering at Kansas State University is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Electrical, Computer, Communications, Telecommunication(s) and Similarly Named Engineering Programs.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science Requirement: (20 credit hours)

MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 **KSC 030**
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
MATH 340 - Elementary Differential Equations **Credits:** 4
MATH 510 - Discrete Mathematics **Credits:** 3
PHYS 213 - Engineering Physics I **Credits:** 5 **KSC 040**
PHYS 214 - Engineering Physics II **Credits:** 5

Computer Engineering Requirement: (59 credit hours)

CIS 116 - Introduction to Programming **Credits:** 1
CIS 200 - Programming Fundamentals **Credits:** 4
CIS 300 - Data and Program Structures **Credits:** 3
CIS 308 - C Language Laboratory **Credits:** 1
CIS 400 - Object-Oriented Design, Implementation, and Testing **Credits:** 3
CIS 520 - Operating Systems I **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
DEN 161 - Engineering Problem Solving **Credits:** 1
ECE 241 - Introduction to Electrical and Computer Engineering **Credits:** 3
ECE 410 - Circuit Theory I **Credits:** 4
ECE 431 - Microcontrollers **Credits:** 3
ECE 441 - Design of Digital Systems **Credits:** 3
ECE 512 - Linear Systems **Credits:** 3
ECE 525 - Electronics I **Credits:** 3
ECE 540 - Applied Scientific Computing for Engineers **Credits:** 3
ECE 542 - Computer Networking **Credits:** 3
ECE 590 - Senior Design Experience I **Credits:** 3
ECE 591 - Senior Design Experience II **Credits:** 2
ECE 643 - Computer Engineering Design Lab **Credits:** 3

ECE 645 - Digital Electronics **Credits:** 3
ECE 649 - Computer Design I **Credits:** 3
STAT 510 - Introductory Probability and Statistics I **Credits:** 3

Restricted Elective: (6 credit hours)

*See department website for list technical electives: https://ece.k-state.edu/docs/advising/ece-technical-electives.pdf

Notes

For the good and benefit of the student and their future employer, the ECE department enforces a C-prerequisite policy for all courses listed by number in the curriculum and for any in-major technical elective course applied toward the degree. A grade of C or better must be earned in all prerequisites to such a course before enrolling in that course.

*Technical electives must be selected from the list of accepted courses.

**Typically only offered in one semester

***No more than twelve (12) credit hours of courses with prefixs ECE may be transferred to Kansas State University for credit toward a bachelor degree in either electrical engineering or computer engineering. Further, those courses selected for transfer credit must be equivalent to courses in the list below and must be such that the prerequisites for the listed course are also satisfied. Any courses listed below transferred must be taken from ABET accredited programs: ECE 241, ECE 410, ECE 525.

Total Hours Required for Graduation: 121

Electrical Engineering (BS)

The Bachelor of Science (B.S.) in electrical engineering at Kansas State University is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Electrical, Computer, Communications, Telecommunication(s) and Similarly Named Engineering Programs.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science Requirements: (21 credit hours)

CHM 210 - Chemistry I **Credits:** 4
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 **KSC 030**
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
MATH 340 - Elementary Differential Equations **Credits:** 4
PHYS 213 - Engineering Physics I **Credits:** 5 **KSC 040**
PHYS 214 - Engineering Physics II **Credits:** 5

Electrical Engineering Requirements: (54 credit hours)

CIS 209 - Computer Programming for Engineers **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
DEN 161 - Engineering Problem Solving **Credits:** 1
ECE 241 - Introduction to Electrical and Computer Engineering **Credits:** 3
ECE 410 - Circuit Theory I **Credits:** 4
ECE 431 - Microcontrollers **Credits:** 3
ECE 441 - Design of Digital Systems **Credits:** 3
ECE 502 - Electronics Laboratory **Credits:** 2
ECE 511 - Circuit Theory II **Credits:** 4
ECE 512 - Linear Systems **Credits:** 3
ECE 525 - Electronics I **Credits:** 3
ECE 526 - Electronics II **Credits:** 3
ECE 530 - Control Systems Design **Credits:** 3
ECE 540 - Applied Scientific Computing for Engineers **Credits:** 3
ECE 557 - Electromagnetic Theory I **Credits:** 4
ECE 581 - Energy Conversion I **Credits:** 3
ECE 590 - Senior Design Experience I **Credits:** 3
ECE 591 - Senior Design Experience II **Credits:** 2
STAT 510 - Introductory Probability and Statistics I **Credits:** 3

Restricted Electives: (12 credit hours)

*Technical electives must be selected to complete one of the option areas. See department website for list of areas and options and required electives: https://ece.k-state.edu/docs/advising/ece-technical-electives.pdf

Electrical engineering options

Students pursuing a BSEE degree are required to complete one of the subplan options. These options include bioengineering, electronics and communications, and power systems.

Notes

For the good and benefit of the student and their future employer, the ECE department enforces a C-prerequisite policy for all courses listed by number in the curriculum and for any in-major technical elective course applied toward the degree. A grade of C or better must be earned in all prerequisites to such a course before enrolling in that course.

*Technical electives must be selected to complete one of the option areas. See department website for list of areas and options and required electives.

Total hours required for graduation: 123

Other Program Choices

Biomedical Engineering (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
DEN 160 - College of Engineering Orientation	1	
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
CHM 210 - Chemistry I	4	
COMM 106 - Public Speaking I	3	**KSC 020**
DEN 161 - Engineering Problem Solving	1	
Total Credits: 16		
Semester 2		
BME 200 - Introduction to Biomedical Engineering	3	
MATH 221 - Analytic Geometry and Calculus II	4	
CHM 230 - Chemistry II	4	
PHYS 213 - Engineering Physics I	5	**KSC 040**
Total Credits: 16		

Second Year		
Semester 1		
MATH 340 - Elementary Differential Equations	4	
PHYS 214 - Engineering Physics II	5	
BME 390 - BME Skill Development Experience	2	
Emphasis Area Technical Electives	6	
Total Credits: 17		
Semester 2		
MATH 222 - Analytic Geometry and Calculus III	4	
ECE 519 - Electric Circuits for Engineers	3	
CHM 531 - Organic Chemistry I	3	
BIOL 198 - Principles of Biology	4	
ME 212 - Engineering Graphics	2	
Total Credits: 16		
Third Year		
Semester 1		
BME 430 - Biomaterials	3	
ECE 540 - Applied Scientific Computing for Engineers	3	
BIOL 441 - Human Body I	4	
ENGL 200 - Expository Writing II	3	**KSC 010**
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		

Semester 2		
BME 490 - Undergraduate BME Design Experience I	1	
BME 470 - Biomedical Device Components	3	
BIOL 442 - Human Body II	4	
Emphasis Area Technical Elective	3	
ECE 512 - Linear Systems	3	
Total Credits: 15		
Fourth Year		
Semester 1		
BME 590 - Senior Design Experience I	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
ECE 772 - Theory and Techniques of Bioinstrumentation	2	
ECE 773 - Bioinstrumentation Design Laboratory	1	
Emphasis Area Technical Elective	3	
BME 575 - Clinical Systems Engineering	3	
Total Credits: 15		
Semester 2		
BME 591 - Senior Design Experience II	2	
Social & Behavioral Sciences Requirement	3	**KSC 050**
BME 674 - Medical Imaging	3	
Arts & Humanities Requirement	3	**KSC 060**
Arts & Humanities Requirement	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**

Total Credits: 17		
Total Program Hours: 128		

Computer Engineering (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
COMM 106 - Public Speaking I	3	**KSC 020**
DEN 160 - College of Engineering Orientation	1	
DEN 161 - Engineering Problem Solving	1	
CIS 116 - Introduction to Programming	1	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Semester 2		
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 221 - Analytic Geometry and Calculus II	4	
ECE 241 - Introduction to Electrical and Computer Engineering	3	
CIS 200 - Programming Fundamentals	4	
Total Credits: 14		
Second Year		

Semester 1		
MATH 222 - Analytic Geometry and Calculus III	4	
PHYS 213 - Engineering Physics I	5	**KSC 040**
ECE 410 - Circuit Theory I	4	
CIS 300 - Data and Program Structures	3	
Total Credits: 16		
Semester 2		
MATH 340 - Elementary Differential Equations	4	
PHYS 214 - Engineering Physics II	5	
STAT 510 - Introductory Probability and Statistics I	3	
ECE 441 - Design of Digital Systems	3	
CIS 308 - C Language Laboratory	1	
Total Credits: 16		
Third Year		
Semester 1		
ECE 431 - Microcontrollers	3	
ECE 525 - Electronics I	3	
ECE 540 - Applied Scientific Computing for Engineers	3	
CIS 400 - Object-Oriented Design, Implementation, and Testing	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Semester 2		

MATH 510 - Discrete Mathematics	3	
ECE 512 - Linear Systems	3	
ECE 649 - Computer Design I	3	
Technical Elective	3	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Fourth Year		
Semester 1		
ECE 590 - Senior Design Experience I	3	
ECE 542 - Computer Networking	3	
ECE 643 - Computer Engineering Design Lab	3	
Technical Elective	3	
Arts & Humanities Requirement	3	**KSC 060**
Credit Hours: 15		
Semester 2		
ECE 591 - Senior Design Experience II	2	
ECE 645 - Digital Electronics	3	
CIS 520 - Operating Systems I	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 14		
Total Program Hours: 121		

Electrical Engineering (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
COMM 106 - Public Speaking I	3	**KSC 020**
CHM 210 - Chemistry I	4	
DEN 160 - College of Engineering Orientation	1	
DEN 161 - Engineering Problem Solving	1	
Total Credits: 16		
Semester 2		
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 221 - Analytic Geometry and Calculus II	4	
ECE 241 - Introduction to Electrical and Computer Engineering	3	
CIS 209 - Computer Programming for Engineers	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Second Year		
Semester 1		
PHYS 213 - Engineering Physics I	5	**KSC 040**
ECE 410 - Circuit Theory I	4	
STAT 510 - Introductory Probability and Statistics I	3	

MATH 340 - Elementary Differential Equations	4	
Total Credits: 18		
Semester 2		
MATH 222 - Analytic Geometry and Calculus III	4	
PHYS 214 - Engineering Physics II	5	
ECE 511 - Circuit Theory II	4	
ECE 441 - Design of Digital Systems	3	
Total Credits: 16		
Third Year		
Semester 1		
ECE 431 - Microcontrollers	3	
ECE 525 - Electronics I	3	
ECE 540 - Applied Scientific Computing for Engineers	3	
ECE 557 - Electromagnetic Theory I	4	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 16		
Semester 2		
ECE 512 - Linear Systems	3	
ECE 526 - Electronics II	3	
ECE 502 - Electronics Laboratory	2	
ECE 581 - Energy Conversion I	3	
Free Electives {Institutionally Designated Area}	3	**KSC 070**

Total Credits: 14		
Fourth Year		
Semester 1		
ECE 530 - Control Systems Design	3	
ECE 590 - Senior Design Experience I	3	
Technical Electives	6	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Semester 2		
ECE 591 - Senior Design Experience II	2	
Technical Electives	6	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 14		
Total Program Hours: 123		

Industrial and Manufacturing Systems Engineering

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Industrial engineers improve the way goods and services are produced and delivered. They improve product quality, individual and system productivity, and design safe work environments while working to eliminate the waste of time, money, materials, energy and other commodities. Industrial engineers are business and people-oriented and are employed in both service and manufacturing industries. Industrial engineers are concerned with the effective utilization of all organizational resources to maximize system productivity. They design, analyze and improve integrated systems of people, equipment and material to produce goods and services.

Bachelor of Science

Industrial Engineering (BS)

The Bachelor of Science (B.S.) in industrial engineering at Kansas State University is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Industrial and Similarly Named Engineering Programs.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science Requirements: (20 credit hours)

CHM 210 - Chemistry I **Credits:** 4
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 **KSC 030**
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
MATH 551 - Applied Matrix Theory **Credits:** 3
PHYS 213 - Engineering Physics I **Credits:** 5 **KSC 040**
PHYS 214 - Engineering Physics II **Credits:** 5

Industrial Engineering Requirements: (46 credit hours)

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
IMSE 015 - Engineering Assembly **Credits:** 0
IMSE 050 - Industrial Plant Studies **Credits:** 0
IMSE 201 - Introduction of Industrial Engineering **Credits:** 3
IMSE 250 - Introduction to Manufacturing Processes and Systems **Credits:** 2

IMSE 251 - Manufacturing Processes Laboratory **Credits:** 1
IMSE 530 - Engineering Economic Analysis **Credits:** 2
IMSE 532 - Industrial Project Evaluation **Credits:** 1
IMSE 541 - Statistical Quality Control **Credits:** 3
IMSE 555 - Industrial Facilities Layout and Design **Credits:** 3
IMSE 560 - Introduction to Operations Research I **Credits:** 3
IMSE 580 - Manufacturing Systems Design and Analysis **Credits:** 4
OR
IMSE 591 - Senior Design Project I **Credits:** 2
AND
IMSE 592 - Senior Design Project II **Credits:** 2
IMSE 623 - Industrial Ergonomics **Credits:** 3
IMSE 633 - Production Planning and Inventory Control **Credits:** 3
IMSE 643 - Industrial Simulation **Credits:** 3
IMSE 660 - Operations Research II **Credits:** 3
IMSE 685 - Principles of Manufacturing Information Systems **Credits:** 3
ME 212 - Engineering Graphics **Credits:** 2
STAT 510 - Introductory Probability and Statistics I **Credits:** 3

Retricted Electives: (18 credit hours)

Computer Programming Elective **Credits:** 3

Analytics Elective **Credits:** 3

Engineering Elective **Credits:** 6

IMSE Elective **Credits:** 6

IMSE Curriculum Notes

The Industrial Engineering Approved Elective Lists and Requirements can be located at the following URL: https://imse.k-state.edu/academics/undergraduate/degree-requirements/

Analytics Elective: Choose one course from the approved department elective list.

Computer Programming Elective: Choose one course from the approved department elective list.

Engineering Electives: Choose 6 hours from the approved departmental list.

IMSE Electives: Choose 6 hours of IMSE courses from the IMSE department.

KBOR General Education: See the K-State Core section; Recommendations for IMSE students can be found on the IMSE requirement page (see the URL above).

Substitutions: IMSE 591 and IMSE 592 can substitute for IMSE 580.

IMSE Graduation Criterion: To graduate with a Bachelor's degree in Industrial Engineering, students must have a >= 2.200 GPA in all IMSE classes taken for undergraduate credit at Kansas State University. Course grades that have been removed by the K-State Retake policy will not apply to this GPA calculation.

IMSE Course Retake Criterion: Any IMSE course being taken for a third time in any five-year period may not be used to fulfill a student's B.S.I.E. graduation requirements.

IMSE Assembly Requirement: Each semester a student must enroll in IMSE 015 unless he/she is a concurrent B.S./M.S.I.E. student, in which case he/she must enroll in either IMSE 015 or IMSE 892.

Total Hours Required for Graduation: 120

Minor

Manufacturing Systems Minor

A minors program has been created to enable students to take 15 credit hours or more in an area of special interest outside their major field. Minors may be earned in a variety of areas including chemistry, leadership, business, computer science, and engineering management. Contact the IMSE department for further information.

Upon completion of the requirements established by the faculty responsible for the minor field, an appropriate entry will be made on the student's transcript.

Program requirements (15 credit hours)

A minor in manufacturing systems provides knowledge about efficient manufacturing practices and current manufacturing techniques, methods and technologies. Students take four core courses and select at least one course from the manufacturing systems elective course list.

Required courses (15 credit hours)

Core courses (9 credit hours)

- IMSE 250 - Introduction to Manufacturing Processes and Systems **Credits:** 2
- IMSE 251 - Manufacturing Processes Laboratory **Credits:** 1
- IMSE 563 - Manufacturing Processes Engineering **Credits:** 3
- IMSE 662 - Computer Aided Manufacturing **Credits:** 3

Elective courses (6 credit hours)

- IMSE 252 - Welding Laboratory **Credits:** 1
- IMSE 255 - Computer Numerical Control Laboratory **Credits:** 1
- IMSE 441 - Introduction to Analytics **Credits:** 3
- IMSE 541 - Statistical Quality Control **Credits:** 3
- IMSE 562 - Materials and the Impact of Manufacturing Processes **Credits:** 3
- IMSE 564 - Product and Process Engineering **Credits:** 3
- IMSE 580 - Manufacturing Systems Design and Analysis **Credits:** 4
- IMSE 623 - Industrial Ergonomics **Credits:** 3
- IMSE 633 - Production Planning and Inventory Control **Credits:** 3

IMSE 641 - Quality Engineering **Credits:** 3
IMSE 643 - Industrial Simulation **Credits:** 3
IMSE 664 - Additive Manufacturing **Credits:** 3
IMSE 685 - Principles of Manufacturing Information Systems **Credits:** 3

Other Program Choices

Industrial Engineering (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
CHM 210 - Chemistry I	4	
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
DEN 160 - College of Engineering Orientation	1	
IMSE 015 - Engineering Assembly	0	
Total Credits: 15		
Semester 2		
MATH 221 - Analytic Geometry and Calculus II	4	
ENGL 200 - Expository Writing II	3	**KSC 010**
ME 212 - Engineering Graphics	2	
Social and Behavioral Sciences Requirement	3	**KSC 050**
Computer Programming Elective	3	
IMSE 015 - Engineering Assembly	0	
Total Credits: 15		

Second Year		
Semester 1		
IMSE 201 - Introduction of Industrial Engineering	3	
MATH 222 - Analytic Geometry and Calculus III	4	
PHYS 213 - Engineering Physics I	5	**KSC 040**
STAT 510 - Introductory Probability and Statistics I	3	
IMSE 015 - Engineering Assembly	0	
Total Credits: 15		
Semester 2		
ACCTG 231 - Introduction to Managerial Accounting	3	
MATH 551 - Applied Matrix Theory	3	
PHYS 214 - Engineering Physics II	5	
Analytics Elective	3	
IMSE 250 - Introduction to Manufacturing Processes and Systems	2	
IMSE 251 - Manufacturing Processes Laboratory	1	
IMSE 015 - Engineering Assembly	0	
Total Credits: 17		
Third Year		
Semester 1		
IMSE 530 - Engineering Economic Analysis	2	
IMSE 532 - Industrial Project Evaluation	1	
IMSE 541 - Statistical Quality Control	3	
IMSE 560 - Introduction to Operations Research I	3	

IMSE 623 - Industrial Ergonomics	3	
Engineering Elective	3	
IMSE 015 - Engineering Assembly	0	
Total Credits: 15		
Semester 2		
IMSE 050 - Industrial Plant Studies	0	
IMSE 555 - Industrial Facilities Layout and Design	3	
IMSE 660 - Operations Research II	3	
Engineering Elective	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Social and Behavioral Sciences Requirement	3	**KSC 050**
IMSE 015 - Engineering Assembly	0	
Total Credits: 15		
Fourth Year		
Semester 1		
IMSE 633 - Production Planning and Inventory Control	3	
IMSE 643 - Industrial Simulation	3	
IMSE 580 - Manufacturing Systems Design and Analysis **OR**	4	
IMSE 591 - Senior Design Project I **AND**	2	
IMSE 592 - Senior Design Project II	2	
IMSE Elective	3	
IMSE 015 - Engineering Assembly	0	
Total Credits: 13		

Semester 2		
IMSE 685 - Principles of Manufacturing Information Systems	3	
IMSE Elective	3	
Arts & Humanities Requirement	3	**KSC 060**
Arts & Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
IMSE 015 - Engineering Assembly	0	
Total Credits: 15		
Total Program Hours: 120		

Mechanical and Nuclear Engineering

Alan Levin Department of Mechanical and Nuclear Engineering

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Mechanical engineering is a broad profession that traditionally comprises three primary sub-fields: energy, mechanisms and machinery, and controls. The work done by mechanical engineers includes the design, construction and use of systems for the conversion of energy available from natural sources (water, fossil fuels, nuclear fuels and solar radiation) to other forms of useful energy. These systems are used for transportation, heat, light, power; design and production of machines to lighten the burden of servile human work and to do work otherwise beyond human capability; processing of materials into useful products; and manufacturing. Mechanical engineers use creative planning, development and operation of systems using energy, machines and resources. A nuclear engineering option is available as an option within the Bachelor of Science in Mechanical Engineering degree program.

Bachelor of Science

Mechanical Engineering (BS)

The Bachelor of Science (B.S.) in mechanical engineering at Kansas State University is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Mechanical and Similarly Named Engineering Programs.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Mechanical Engineering

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science: (24 credit hours)

CHM 210 - Chemistry I **Credits:** 4
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 **KSC 030**
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
MATH 551 - Applied Matrix Theory **Credits:** 3
MATH 340 - Elementary Differential Equations **Credits:** 4
PHYS 213 - Engineering Physics I **Credits:** 5 **KSC 040**
PHYS 214 - Engineering Physics II **Credits:** 5

Major Requirements: (53 credit hours)

CE 333 - Statics **Credits:** 3
CE 533 - Mechanics of Materials **Credits:** 3
CHE 354 - Basic Concepts in Materials Science and Engineering **Credits:** 1
CHE 355 - Fundamentals of Mechanical Properties **Credits:** 1
DEN 160 - College of Engineering Orientation **Credits:** 1
DEN 161 - Engineering Problem Solving **Credits:** 1
IMSE 250 - Introduction to Manufacturing Processes and Systems **Credits:** 2
IMSE 530 - Engineering Economic Analysis **Credits:** 2
ME 212 - Engineering Graphics **Credits:** 2
ME 400 - Computer Applications in Mechanical Engineering **Credits:** 3
ME 512 - Dynamics **Credits:** 3
ME 513 - Thermodynamics I **Credits:** 3
ME 533 - Machine Design I **Credits:** 3
ME 535 - Measurement and Instrumentation Laboratory **Credits:** 3

ME 570 - Control of Mechanical Systems I **Credits:** 4
ME 571 - Fluid Mechanics **Credits:** 3
ME 573 - Heat Transfer **Credits:** 3
ME 574 - Interdisciplinary Industrial Design Projects I **Credits:** 3
ME 575 - Mechanical Engineering Capstone Design **Credits:** 3
NE 495 - Elements of Nuclear Engineering **Credits:** 3
ECE 519 - Electric Circuits for Engineers **Credits:** 3
OR
ME 519 - Electrical Circuits for Mechanical and Nuclear Engineering **Credits:** 3

Electives: (12 credit hours)

Restricted Elective **Credits:** 3
See MNE Technical and Restricted elective lists at: https://www.mne.k-state.edu/student-success/advising/k-state-core-technical-elective-requirements.pdf

Mechancial Engineering Elective >200 level **Credits:** 3
Mechanical Engineering Elective >200 level **Credits:** 3
Mechanical Engineering Elective > 600 level **Credits:** 3

Total Hours Required for Graduation: 125

Notes:

To graduate with a Bachelors in Mechanical Engineering, students must have a >= 2.200 GPA in all ME/NE classes >= 400 level taken for undergraduate credit at Kansas State University. Course grades that have been removed by the K-State Retake policy will not apply to this GPA calculation.

Before taking classes at another college/university, students should confirm that the courses they wish to take will be accepted in transfer.

Technical Elective Lists, and Nuclear Engineering Option information can be found at: https://www.mne.k-state.edu/student-success/advising/tech-electives/

FINAN 450 can substitute for IMSE 530 only for students who complete the Business Minor.

Mechanical Engineering - Nuclear Engineering (BS)

The Bachelor of Science (B.S.) in Mechanical Engineering at Kansas State University is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Mechanical and Similarly Named Engineering Programs.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Mechanical Engineering

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science: (24 credit hours)

CHM 210 - Chemistry I **Credits:** 4
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 **KSC 030**
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
MATH 340 - Elementary Differential Equations **Credits:** 4
MATH 551 - Applied Matrix Theory **Credits:** 3
PHYS 213 - Engineering Physics I **Credits:** 5 **KSC 040**
PHYS 214 - Engineering Physics II **Credits:** 5

Major Requirements: (50 credit hours)

CE 333 - Statics **Credits:** 3
CE 533 - Mechanics of Materials **Credits:** 3
CHE 354 - Basic Concepts in Materials Science and Engineering **Credits:** 1
CHE 355 - Fundamentals of Mechanical Properties **Credits:** 1
DEN 160 - College of Engineering Orientation **Credits:** 1
DEN 161 - Engineering Problem Solving **Credits:** 1
IMSE 250 - Introduction to Manufacturing Processes and Systems **Credits:** 2
IMSE 530 - Engineering Economic Analysis **Credits:** 2
ME 212 - Engineering Graphics **Credits:** 2
ME 400 - Computer Applications in Mechanical Engineering **Credits:** 3
ME 512 - Dynamics **Credits:** 3
ME 513 - Thermodynamics I **Credits:** 3
ME 533 - Machine Design I **Credits:** 3
ME 570 - Control of Mechanical Systems I **Credits:** 4
ME 571 - Fluid Mechanics **Credits:** 3
ME 573 - Heat Transfer **Credits:** 3
ME 574 - Interdisciplinary Industrial Design Projects I **Credits:** 3
ME 575 - Mechanical Engineering Capstone Design **Credits:** 3
NE 495 - Elements of Nuclear Engineering **Credits:** 3
ECE 519 - Electric Circuits for Engineers **Credits:** 3
OR
ME 519 - Electrical Circuits for Mechanical and Nuclear Engineering **Credits:** 3

Nuclear Engineering Option (12 credit hours)

NE 612 - Principles of Radiation Detection **Credits:** 3
NE 630 - Nuclear Reactor Theory **Credits:** 3
NE 648 - Nuclear Reactor Laboratory **Credits:** 3
NE 690 - Radiation Protection and Shielding **Credits:** 3

Restricted Electives (3 credit hours)

See MNE Technical and Restricted elective lists at: https://www.mne.k-state.edu/student-success/advising/k-state-core-technical-elective-requirements.pdf

Total Minimum Hours Required for Graduation: 125

Notes:

To graduate with a Bachelors in Mechanical Engineering, students must have a >= 2.200 GPA in all ME/NE classes >= 400 level taken for undergraduate credit at Kansas State University. Course grades that have been removed by the K-State Retake policy will not apply to this GPA calculation.

Before taking classes at another college/university, students should confirm that the courses they wish to take will be accepted in transfer.

Technical Elective Lists, and Nuclear Engineering Option information can be found at: https://www.mne.k-state.edu/student-success/advising/tech-electives/

FINAN 450 can substitute for IMSE 530 only for students who complete the Business Minor.

Nuclear Engineering (BS)

The Bachelor of Science (B.S.) in Nuclear Engineering at Kansas State University is seeking accreditation by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Nuclear, Radiological, and Similarly Named Engineering Programs.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program

The curriculum for this major assumes students enter college prepared to take Calculus.

Math and Science: (30 credit hours)

CHM 210 - Chemistry I **Credits:** 4
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
KSC-030
MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
MATH 340 - Elementary Differential Equations **Credits:** 4
PHYS 213 - Engineering Physics I **Credits:** 5
KSC-040
PHYS 214 - Engineering Physics II **Credits:** 5

Major Requirements: (60 credit hours)

CE 333 - Statics **Credits:** 3
CE 533 - Mechanics of Materials **Credits:** 3
CHE 354 - Basic Concepts in Materials Science and Engineering **Credits:** 1
CHE 355 - Fundamentals of Mechanical Properties **Credits:** 1
CIS 209 - Computer Programming for Engineers **Credits:** 3
DEN 160 - College of Engineering Orientation **Credits:** 1
DEN 161 - Engineering Problem Solving **Credits:** 1
ECE 519 - Electric Circuits for Engineers **Credits:** 3
ME 212 - Engineering Graphics **Credits:** 2
ME 512 - Dynamics **Credits:** 3
ME 513 - Thermodynamics I **Credits:** 3
ME 571 - Fluid Mechanics **Credits:** 3
ME 573 - Heat Transfer **Credits:** 3
ME 574 - Interdisciplinary Industrial Design Projects I **Credits:** 3
NE 415 - Introduction to Engineering Analysis **Credits:** 3
NE 495 - Elements of Nuclear Engineering **Credits:** 3
NE 585 - Nuclear Engineering Design Projects **Credits:** 3
NE 612 - Principles of Radiation Detection **Credits:** 3
NE 630 - Nuclear Reactor Theory **Credits:** 3
NE 640 - Nuclear Reactor Thermal Hydraulics **Credits:** 3
NE 648 - Nuclear Reactor Laboratory **Credits:** 3
NE 650 - Nuclear Fuel Cycles **Credits:** 3
NE 690 - Radiation Protection and Shielding **Credits:** 3

Nuclear Engineering Elective (3 credit hours)

See Nuclear Engineering elective list at: https://www.mne.k-state.edu/student-success/advising/k-state-core-technical-elective-requirements.pdf

Restricted Technical Elective (3 credit hours)

See Restricted elective list at: https://www.mne.k-state.edu/student-success/advising/k-state-core-technical-elective-requirements.pdf

Total Hours Required for Graduation: 123

Notes:

To graduate with a Bachelor of Science in Nuclear Engineering, students must have a >= 2.200 GPA in all ME/NE classes >= 400 level taken for undergraduate credit at Kansas State University. Course grades that have been removed by the K-State Retake policy will not apply to this GPA calculation.

Before taking classes at another college/university, students should confirm that the courses they wish to take will be accepted in transfer.

Technical Elective Lists can be found at: https://www.mne.k-state.edu/student-success/advising/tech-electives/

Minor

Nuclear Engineering Minor

Admission Criteria

The Minor in Nuclear Engineering is available to any K-State undergraduate student, undergraduate students in any ABET accredited engineering program, and to graduates of any ABET accredited engineering program, subject to the following criteria:

- Students must submit a Minor Application Form to the Kansas State University Mechanical and Nuclear Engineering Department; this would preferably occur prior to or within the first year of Minor coursework.
- The application must be approved by one Nuclear Engineering faculty member in order for the student to be eligible to receive the Minor in Nuclear Engineering.
- Undergraduate students must have a cumulative GPA of 2.3 or higher.
- Graduates of an ABET accredited engineering program must have attained a cumulative GPA of 2.3 or higher.

Minor Completion Requirements

In order to obtain a Minor in Nuclear Engineering, students must:

- Complete the required courses with a grade of C or better.
- Take at least nine credit hours from Kansas State University (any transferred credits must be from an ABET accredited engineering program).
- Earn a minimum cumulative 2.3 GPA for the courses applied to the Minor.

One introductory course (3 credit hours)

NE 495 - Elements of Nuclear Engineering **Credits:** 3

Choose 2 of the following 3 core courses (6 credit hours)

NE 612 - Principles of Radiation Detection **Credits:** 3

NE 630 - Nuclear Reactor Theory **Credits:** 3
NE 690 - Radiation Protection and Shielding **Credits:** 3

Choose 6 credit hours of nuclear engineering electives

Courses taken as part of the core listed above cannot be taken as electives.

* NE 350 - Reactor Operations Laboratory **Credits:** 3
NE 612 - Principles of Radiation Detection **Credits:** 3
NE 620 - Problems in Nuclear Engineering **Credits:** 1-18
NE 630 - Nuclear Reactor Theory **Credits:** 3
* NE 648 - Nuclear Reactor Laboratory **Credits:** 3
NE 690 - Radiation Protection and Shielding **Credits:** 3
NE 761 - Radiation Measurement Systems **Credits:** 3
NE 799 - Special Topics in Nuclear Engineering **Credits:** 0-18

Special Topics Course Titles:
Special Topics in Monte Carlo Methods **Credits:** 3
Special Topics in Radiation Applications **Credits:** 3

*Note

Laboratory courses require two weeks spent on-campus to conduct laboratory experiments; reports can be submitted after the on-campus term.

Other Program Choices

Mechanical Engineering (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
CHM 210 - Chemistry I	4	
DEN 160 - College of Engineering Orientation	1	
DEN 161 - Engineering Problem Solving	1	
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
ME 212 - Engineering Graphics	2	
Total Credits: 15		

Semester 2		
CHE 354 - Basic Concepts in Materials Science and Engineering	1	
CHE 355 - Fundamentals of Mechanical Properties	1	
COMM 106 - Public Speaking I	3	**KSC 020**
MATH 221 - Analytic Geometry and Calculus II	4	
ENGL 200 - Expository Writing II	3	**KSC 010**
PHYS 213 - Engineering Physics I	5	**KSC 040**
Total Credits: 17		
Second Year		
Semester 1		
CE 333 - Statics	3	
IMSE 250 - Introduction to Manufacturing Processes and Systems	2	
MATH 222 - Analytic Geometry and Calculus III	4	
NE 495 - Elements of Nuclear Engineering	3	
PHYS 214 - Engineering Physics II	5	
Total Credits: 17		
Semester 2		
MATH 551 - Applied Matrix Theory	3	
MATH 340 - Elementary Differential Equations	4	
ME 512 - Dynamics	3	
ME 513 - Thermodynamics I	3	
Restricted Technical Elective	3	

Total Credits: 16		
Third Year		
Semester 1		
CE 533 - Mechanics of Materials	3	
ME 400 - Computer Applications in Mechanical Engineering	3	
ME 571 - Fluid Mechanics	3	
ECE 519 - Electric Circuits for Engineers **OR**	3	
ME 519 - Electrical Circuits for Mechanical and Nuclear Engineering	3	
ME/NE Technical Elective	3	
Total Credits: 15		
Semester 2		
ME 533 - Machine Design I	3	
ME 570 - Control of Mechanical Systems I	4	
IMSE 530 - Engineering Economic Analysis	2	
ME 535 - Measurement and Instrumentation Laboratory	3	
ME/NE Technical Elective	3	
Total Credits: 15		
Fourth Year		
Semester 1		
Social & Behavioral Sciences Requirement	3	**KSC 050**
Social & Behavioral Sciences Requirement	3	**KSC 050**
ME 574 - Interdisciplinary Industrial Design Projects I	3	

ME 573 - Heat Transfer	3	
ME/NE Technical Elective	3	
Total Credits: 15		
Semester 2		
Arts & Humanities Requirement	3	**KSC 060**
Arts & Humanities Requirement	3	**KSC 060**
ME 575 - Mechanical Engineering Capstone Design	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 15		
Total Program Hours: 125		

Mechanical Engineering - Nuclear Engineering (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
CHM 210 - Chemistry I	4	
DEN 160 - College of Engineering Orientation	1	
DEN 161 - Engineering Problem Solving	1	
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
ME 212 - Engineering Graphics	2	
Total Credits: 15		

Semester 2		
CHE 354 - Basic Concepts in Materials Science and Engineering	1	
CHE 355 - Fundamentals of Mechanical Properties	1	
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 221 - Analytic Geometry and Calculus II	4	
PHYS 213 - Engineering Physics I	5	**KSC 040**
Total Credits: 17		
Second Year		
Semester 1		
CE 333 - Statics	3	
IMSE 250 - Introduction to Manufacturing Processes and Systems	2	
MATH 222 - Analytic Geometry and Calculus III	4	
NE 495 - Elements of Nuclear Engineering	3	
PHYS 214 - Engineering Physics II	5	
Total Credits: 17		
Semester 2		
MATH 340 - Elementary Differential Equations	4	
MATH 551 - Applied Matrix Theory	3	
ME 400 - Computer Applications in Mechanical Engineering	3	
ME 512 - Dynamics	3	
ME 513 - Thermodynamics I	3	

Total Credits: 16		
Third Year		
Semester 1		
CE 533 - Mechanics of Materials	3	
ME 571 - Fluid Mechanics	3	
NE 690 - Radiation Protection and Shielding	3	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
ECE 519 - Electric Circuits for Engineers **OR**	3	
ME 519 - Electrical Circuits for Mechanical and Nuclear Engineering	3	
Total Credits: 15		
Semester 2		
IMSE 530 - Engineering Economic Analysis	2	
ME 533 - Machine Design I	3	
ME 570 - Control of Mechanical Systems I	4	
NE 612 - Principles of Radiation Detection	3	
Free Elective {Institutionally Designated Area}3	3	**KSC 070**
Total Credits: 15		
Fourth Year		
Semester 1		
ME 573 - Heat Transfer	3	
ME 574 - Interdisciplinary Industrial Design Projects I	3	
NE 630 - Nuclear Reactor Theory	3	

Social and Behavioral Sciences Requirement	3	**KSC 050**
Social and Behavioral Sciences Requirement	3	**KSC 030**
Total Credits: 15		
Semester 2		
ME 575 - Mechanical Engineering Capstone Design	3	
NE 648 - Nuclear Reactor Laboratory	3	
Arts and Humanities Requirement	3	**KSC 060**
Arts and Humanities Requirement	3	**KSC 060**
Restricted Elective	3	
Total Credit: 15		
Total Program Hours: 125		

Nuclear Engineering (BS) Academic Degree Map

The curriculum for this major assumes students enter college prepared to take Calculus.		
First Year	**Hours**	**K-State Core**
Semester 1		
CHM 210 - Chemistry I	4	
DEN 160 - College of Engineering Orientation	1	
DEN 161 - Engineering Problem Solving	1	
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 220 - Analytic Geometry and Calculus I	4	**KSC 030**
ME 212 - Engineering Graphics	2	
Total Credits: 15		

Semester 2		
CHE 354 - Basic Concepts in Materials Science and Engineering	1	
CHE 355 - Fundamentals of Mechanical Properties	1	
COMM 106 - Public Speaking I	3	**KSC 020**
ENGL 200 - Expository Writing II	3	**KSC 010**
MATH 221 - Analytic Geometry and Calculus II	4	
PHYS 213 - Engineering Physics I	5	**KSC 040**
Total Credits: 17		
Second Year		
Semester 1		
CIS 209 - Computer Programming for Engineers	3	
MATH 222 - Analytic Geometry and Calculus III	4	
NE 495 - Elements of Nuclear Engineering	3	
PHYS 214 - Engineering Physics II	5	
Total Credits: 15		
Semester 2		
MATH 340 - Elementary Differential Equations	4	
CE 333 - Statics	3	
NE 415 - Introduction to Engineering Analysis	3	
Social and Behavioral Sciences Elective	3	**KSC 050**
ME 513 - Thermodynamics I	3	
Total Credits: 16		

Third Year		
Semester 1		
CE 533 - Mechanics of Materials	3	
ME 512 - Dynamics	3	
NE 690 - Radiation Protection and Shielding	3	
Social and Behavioral Sciences Elective	3	**KSC 050**
ECE 519 - Electric Circuits for Engineers	3	
Total Credits: 15		
Semester 2		
Restricted Elective	3	
NE 650 - Nuclear Fuel Cycles	3	
ME 571 - Fluid Mechanics	3	
NE 612 - Principles of Radiation Detection	3	
Arts and Humanities Elective	3	**KSC 060**
Total Credits: 15		
Fourth Year		
Semester 1		
ME 573 - Heat Transfer	3	
ME 574 - Interdisciplinary Industrial Design Projects I	3	
NE 630 - Nuclear Reactor Theory	3	
Institutional Elective	3	**KSC 070**
NE 640 - Nuclear Reactor Thermal Hydraulics	3	

Total Credits: 15		
Semester 2		
NE 585 - Nuclear Engineering Design Projects	3	
NE 648 - Nuclear Reactor Laboratory	3	
Arts and Humanities Elective	3	**KSC 060**
Institutional Elective	3	**KSC 070**
Nuclear Engineering Elective	3	
Total Credits: 15		
Total Program Hours: 123		

College of Health and Human Sciences

Brad Behnke, Interim Dean
Bronwyn Fees, Associate Dean for Academic and Faculty Affairs
Nicholas Wallace, Interim Associate Dean for Research
Shawna Jordan, Assistant Dean for Student Success
Laci Cornelison, Interim Director, Center on Aging

119 Justin Hall
785-532-5500
Fax: 785-532-5504
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www.hhs.k-state.edu

The mission of the College of Health and Human Sciences is to promote the well-being of individuals, families, and communities through research, education and outreach. In a world focused on things, this college focuses first on people.

Programs in the College of Health and Human Sciences focus on human health, human behavior and human well-being, and are centered on improving the quality of life for individuals, families and communities.

Click on any of the following links for information:

Degree Programs
General Education: K-State 8
University Honors Program
Minors, Secondary Majors, and Certificates
Experiential Learning
Professional Mentoring Program

Organizations and Activities

Degree Programs

All undergraduate programs of study lead to a bachelor of science degree.

Entering students who have not yet decided on their major in the College of Health and Human Sciences may request initial admission to health and human sciences, undeclared (HEUN).

General Requirements

Bachelor of Science degree

Each degree offered by the College of Health and Human Sciences provides graduates with a foundation for professional practice and lifelong learning. Graduates from all degree programs in the college will be able to:

- Understand the interaction of people with their environments.
- Understand roles and dynamics within family and other human systems.
- Recognize and value diversity throughout the human experience.
- Access, analyze, and interpret data to make informed decisions.
- Articulate informed points of view on issues that affect individuals, families, and professional practice.
- Apply professional knowledge to improve the lives of people.
- Demonstrate standards of ethical conduct.
- Assume the responsibilities of citizenship.

See individual programs for Student Learning Outcomes.

Grade requirement

See specific program for grade requirements. Minimum grade of C or higher is required in all professional studies and supporting courses in College of Health and Human Sciences degree programs, except where minimum grade of "B" is specified. Minimum grades of "B" or "C" are required for general requirements in some programs.

Transfer courses

Careful planning enables students to transfer courses from another college or university that will apply toward specific degree requirements at K-State. Transfer equivalency information for courses offered by post-secondary institutions in Kansas and elsewhere is available from the K-State Admissions Office. For institutions or courses not listed and other transfer questions, contact the College of Health and Human Sciences Dean's Office.

K-State Core Requirements

Please see K-State Core requirements.

University Honors Program

Please click on the following link to learn more about the University Honors Program

Minors, Secondary Majors, and Certificates

With careful planning, students may complete requirements for a minor, secondary major, or certificate within the Bachelor of Science degree requirements or with a few additional courses.

For more information, consult an academic advisor and the director of the specific program.

Experiential Learning

The College of Health and Human Sciences works with the Career Center to help students find internships, part-time work, and professional employment in their chosen fields.

Each department in the college offers internships and field experiences for qualified students. Students may earn university credit while gaining career-related experience under the guidance and supervision of University faculty and professionals in the field.

Professional Mentoring Program

The College of Health and Human Sciences Professional Mentoring Program provides students with the opportunity to learn from highly successful and experienced professionals by forging long-lasting, professional relationships. These individuals are alumni and friends of K-State who volunteer their time to help students prepare professionally and succeed in their chosen career.

Organizations and Activities

Students are encouraged to participate in professional and service activities. Most professional areas within the college have a student organization to enhance the personal and professional development of members. A full list of organizations is available in the Center for Student Involvement. Organizations of specific interest are found at Student Opportunities or available through the departments.

The Health and Human Sciences Ambassadors are a select group of students who serve as hosts for the college and promote college programs.

Qualified students are invited to join the Kappa Omicron Nu and Eta Sigma Delta honor societies.

School of Consumer Sciences

Hospitality Management

Cece X. Y. Leung, Program Chair

103 Justin Hall
785-532-6993
Fax: 785-532-5522

E-mail: hospitality@k-state.edu
www.hhs.k-state.edu/hm/

The programs in the Department of Hospitality Management are designed to meet the needs of the vibrant hospitality industry and prepares students for professional careers in lodging, food and beverage, and event management.

The department offers a bachelor of science degree in hospitality management, an accelerated bachelor's and master's degree, and a minor in hospitality management.

Fashion Studies

Kim Hiller, Program Chair

225 Justin Hall
1324 Lover's Lane
785-532-6993
Fax: 785-532-3796
Email: idfsinfo@k-state.edu
https://www.hhs.k-state.edu/idfs/

The fashion studies program includes two areas of specialization: fashion business and fashion design. The program aspires to be the program of choice for sustainable fashion, advancing environmental, social, and economic sustainability knowledge and behavior through education, scholarship, and engagement. The Fashion Studies program at Kansas State University prepares the next generation of leaders to envision and implement sustainable approaches to the global fashion industry. Undergraduate programs lead to a bachelor of science in fashion studies. Resident graduate programs lead to an accelerated BS/MS in fashion studies, a master of science in fashion studies or a doctoral degree in health and human sciences with specialization in sustainable fashion business.

Students in all programs are encouraged to take advantage of diverse learning experiences including internships, study abroad, field trips, and study tours. The fashion studies undergraduate program is accredited by the Textiles and Apparel Programs Accreditation Commission (TAPAC).

Facilities include well-equipped studios and laboratories for: fashion design and production, and textile analysis. The textile laboratories include a wide range of textile and product testing equipment, and extensive equipment for natural dye research. The department is home to the Kansas State University Historic Costume and Textile Museum with an extensive collection of artifacts available for research and public education through exhibition.

Personal Financial Planning

343 Justin Hall
(785) 532-1480
pfp@ksu.edu
https://hhs.k-state.edu/pfp/

The department of Personal Financial Planning at Kansas State University strives to be world known for its research, education, service, and outreach in financial planning offering emphases in financial counseling and financial therapy. We exist to prepare professionals to transform lives through financial planning.

Bachelor of Science

Event and Hospitality Management (BS)

The event and hospitality management program prepares students for managerial careers in all facets of the industry including restaurants, hotels, resorts, destination management organizations, tourism, meeting planning organizations, and much more. The program is accredited by the Accreditation Commission for Programs in Hospitality Administration (ACPHA) and has held the accreditation since 1994.The mission of the program is to advance the land-grant mission, industry, and discipline by preparing students with educational experiences that positively impact the individual, their careers, and society; and conducting applied, industry centered research to enhance the well being of individuals, organizations, and communities.

The program provides students with a broad liberal general education, an understanding of business administration (business minor), a solid foundation of professional courses in hotel, foodservice, event management, and hands-on experience in the hospitality industry.

Students apply concepts learned in the classroom to actual work situations. The senior internship experience may be national or international in location. Students gain valuable experience in these operations under the supervision of managers and faculty supervisors. An international experience as part of K-State's Study Abroad Program or in industry-related work experience is highly encouraged.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: 86 credit hours

HHS Courses: 3 credit hours

HHS 100 - Well-being 1: You and Community **Credits:** 1
HHS 200 - Well-being 2: Mind and Body **Credits:** 1
HHS 300 - Well-being 3: Money and Meaning **Credits:** 1

Major Support Courses: 9 credit hours

The courses below are required if not met through University Core requirements.

If not met through K-State Core requirements, MATH 100 is required.

ECON 110 - Principles of Macroeconomics **Credits:** 3
OR
ECON 120 - Principles of Microeconomics **Credits:** 3
KSC-050
MATH 100 - College Algebra **Credits:** 3

KSC-030

STAT 250 - Business and Economic Statistics I **Credits:** 3

Professional Courses: 74 credit hours

Grade of C or Higher Required

Hospitality Management Courses: 50 credit hours

HM 101 - Freshman Seminar in Hospitality Management **Credits:** 1
HM 120 - Introduction to the Hospitality Industry **Credits:** 3
HM 205 - Food Safety and Protection in Hospitality Operations **Credits:** 1
HM 303 - Operational Research in the Hospitality Industry **Credits:** 3
HM 321 - Hospitality Service Systems **Credits:** 3
HM 341 - Principles of Food Production Management **Credits:** 3
HM 351 - Commercial Food Production Management **Credits:** 3
HM 361 - Hotel Operations **Credits:** 3
HM 363 - Event Management **Credits:** 3
HM 422 - Cost Controls in Hospitality Operations **Credits:** 3
HM 423 - Facility Management **Credits:** 3
HM 424 - Hospitality Sales and Promotion **Credits:** 3
HM 440 - Beverage Management **Credits:** 3
HM 464 - Revenue Management **Credits:** 3
HM 475 - Internship in Hospitality Management **Credits:** 3
HM 482 - Human Resource Management in the Hospitality Industry **Credits:** 3
HM 621 - Hospitality Law **Credits:** 3
HM 650 - Senior Seminar in Hospitality Management **Credits:** 3

Business Support Courses: 15 credit hours

Courses are also required for Business minor.

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
FINAN 450 - Principles of Finance **Credits:** 3
MANGT 220 - Principles of Management **Credits:** 3
MKTG 250 - Introduction to Marketing **Credits:** 3

Professional Electives: 9 credit hours

In consultation with an Academic Advisor, select 9 hours of approved Professional Electives.

Unrestricted Electives: 0 credit hours

Total Hours Required for Graduation: 120

Fashion Studies - Fashion Business (BS)

The fashion studies program includes two areas of specialization: fashion business and fashion design. The program prepares students for professional careers in fashion design, product development, buying, merchandising, marketing, entrepreneurship, and retail management. The U.S. fashion market is one of the largest in the world and maintains high employment growth. The U.S. has nearly two million retail firms, many of which sell fashion products. The apparel manufacturing industry, which includes the design and manufacture of garments is a global enterprise that takes advantage of highly sophisticated technologies.

Employment Prospects

Graduates of the fashion business specialization work in retail organizations as buyers, planners, market researchers, retail managers, merchandisers, distribution analysts, small business owners, trend forecasters, fashion coordinators, fashion journalists, and stylists. Graduates of the fashion design specialization establish careers in the industry as creative designers, quality assurance technicians, technical designers, pattern makers, CAD (Computer Aided Design) specialists, and product developers.

Students have the opportunity for employment throughout the United States and internationally. While the primary hubs for the fashion industry remain in large coastal cities such as New York and Los Angeles, there are industry positions in other regions throughout the country. For example, corporate retailers have established their headquarters and regional offices in various mid-sized markets throughout the United States including Chicago, Denver, Dallas, Columbus, Kansas City, Miami, Baltimore, Philadelphia, Portland, San Francisco and Seattle. Graduates interested in retail management or small business operations can find a position in the city of their choice.

Special features

- The fashion studies program is accredited by the Textiles and Apparel Programs Accreditation Commission (TAPAC) and the fashion design specialization is accredited by the National Association of Schools of Art and Design (NASAD).
- All students participate in at least one summer internship and may also choose to participate in study abroad and a variety of both domestic and foreign faculty-led study tours.
- Upper-level undergraduates can participate in the visiting student program at the Fashion Institute of Technology in New York.
- Opportunities in coursework and experience-based learning provide exposure to diverse cultural perspectives.

What will I study?

Fashion Studies students develop technical knowledge, problem-solving skills, and leadership abilities while being challenged to excel in the specialization they have selected. Students learn about all aspects of the fashion industry from the manufacture of fibers to fashion design, production, distribution, marketing and retail management. The fashion studies program at K-State emphasizes the importance of environmental, economic, and social sustainability throughout the industry.

The goals of the fashion studies program are to develop individuals with creative and analytical thinking abilities and to develop competent, resourceful, business leaders who have a liberal and general education. Course work for fashion studies students includes written and oral communications, mathematics, social sciences, natural and physical sciences, and computer applications.

All students participate in an integrated core of studies in textiles, aesthetics, digital communication, fashion forecasting, soft goods evaluation, consumer behavior, historic analysis of fashion, and supply chain management. The program provides both practical experiences and a solid knowledge base for graduate studies.

Our program offers students an academic experience that includes strong industry ties, required internships, and faculty-led study tours within the United States and abroad, an annual public exhibition of student work, and events that bring professionals and alumni to campus.

High School Preparation

Students who meet the Kansas qualified admission requirements are prepared to enter the fashion studies program at K-State. For those who specialize in fashion business, two years of high school algebra and work experience in retailing are recommended. Those specializing in fashion design are expected to have course work and other experiences in sewing, design

and art. Cultural activities, travel and exposure to a wide variety of media are also encouraged for all students entering the program.

Computer Access

Fashion Studies students are required to provide a personal laptop computer beginning in the first year of study in the program. Please consult the fashion studies website for minimum computer requirements. As technology changes, so do the computer specifications. Students are encouraged to verify the most current requirements.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (83 Credit Hours)

* If any of the following courses are applied towards University Core Requirements, please consult your advisor on additional courses to meet the 120 hours.

Math Requirement

If not met through K-State Core requirements, MATH 100 is required.

KSC-030
MATH 100 - College Algebra **Credits:** 3

HHS Courses: (3 Credit Hours)

HHS 100 - Well-being 1: You and Community **Credits:** 1
HHS 200 - Well-being 2: Mind and Body **Credits:** 1
HHS 300 - Well-being 3: Money and Meaning **Credits:** 1

Professional Studies: (80 Credit Hours)

Grade of C or Higher Required

FASH 200 - Introduction to Product Development **Credits:** 3
FASH 245 - Fashion Industry **Credits:** 3
FASH 265 - Textiles **Credits:** 3
FASH 325 - Fashion Retailing **Credits:** 3
FASH 330 - Dress and Human Behavior **Credits:** 3

FASH 340 - Fashion Aesthetics **Credits:** 3
FASH 375 - Digital Fashion Communications **Credits:** 3
FASH 430 - History of Fashion **Credits:** 3
FASH 445 - Professional Development **Credits:** 3
FASH 465 - Product Development for Circular Fashion **Credits:** 3
FASH 550 - Fashion Internship **Credits:** 4
FASH 575 - Fashion Forecasting **Credits:** 3
FASH 600 - Soft Goods Supply Chain Management **Credits:** 3
IDFS 350 - Our Sustainable World **Credits:** 3

Specialization in Fashion Business: (37 Credit Hours)

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
FASH 476 - Merchandise Math and Buying Concepts **Credits:** 3
FASH 576 - Retail Finance and Merchandise Control **Credits:** 3
FASH 625 - Sustainable Fashion Business **Credits:** 4
MKTG 250 - Introduction to Marketing **Credits:** 3
MKTG 300 - Introduction to Digital Marketing **Credits:** 3

Professional Electives: (18 Credit Hours)

In consultation with an advisor, select 18 credit hours of approved Professional Electives to support your professional goals. 9 of the 18 Professional Elective Hours must be above the 300 level.

Elective list available here.

Unrestricted Electives: (2 Credit Hours)

Dependent on course selections to fulfill K-State Core requirements.

Total Hours Required for Graduation: 120

NOTES

The following K-State Core courses are recommended to successfully prepare for Program required courses.

Math 100: College Algebra (KS-030)

GEOG 121 and GEOG 122 Introductory Physical Geography: Earth Systems Science and Laboratory (KS-040)

ECON 110 Principles of Macroeconomics OR ECON 120 Principles of Microeconomics (KS-050)

PSYCH 110 General Psychology or SOCIO 211 Introduction to Sociology (KS-050)

Art 196: Survey of West Art History II (KS-060)

Fashion Studies - Fashion Design (BS)

The fashion studies program includes two areas of specialization: fashion business and fashion design. The program prepares students for professional careers in fashion design, fashion business, product development, merchandising, and retail management. The U.S. fashion market is one of the largest in the world and maintains high employment growth. The U.S. has nearly two million retail firms, many of which sell apparel and textiles products. The apparel manufacturing industry, which includes the design and manufacture of apparel is a global enterprise that takes advantage of highly sophisticated technologies.

Employment Prospects

Graduates of the fashion business specialization work in retail organizations as buyers, planners, market researchers, retail managers, merchandisers, distribution analysts, small business owners, trend forecasters, fashion coordinators, fashion journalists, and stylists. Graduates of the fashion design specialization establish careers in the industry as creative designers, quality assurance technicians, technical designers, pattern makers, CAD (Computer Aided Design) specialists, and product developers.

Students have the opportunity for employment throughout the United States and internationally. While the primary hubs for the fashion industry remain in large coastal cities such as New York and Los Angeles, there are industry positions in other regions throughout the country. For example, corporate retailers have established their headquarters and regional offices in various mid-sized markets throughout the United States including Chicago, Denver, Dallas, Columbus, Kansas City, Miami, Baltimore, Philadelphia, Portland, San Francisco and Seattle. Graduates interested in retail management or small business operations can find a position in the city of their choice.

Special features

- The fashion studies program is accredited by the Textiles and Apparel Programs Accreditation Commission (TAPAC) and the fashion design specialization is accredited by the National Association of Schools of Art and Design (NASAD).
- All students participate in at least one summer internship and may also choose to participate in study abroad and a variety of both domestic and foreign faculty-led study tours.
- Upper-level undergraduates can participate in the visiting student program at the Fashion Institute of Technology in New York.
- Opportunities in coursework and experience-based learning provide exposure to diverse cultural perspectives.

What will I study?

Fashion Studies students develop technical knowledge, problem-solving skills, and leadership abilities while being challenged to excel in the specialization they have selected. Students learn about all aspects of the fashion industry from the manufacture of fibers to fashion design, production, distribution, marketing and retail management. The fashion studies program at K-State emphasizes the importance of environmental, economic, and social sustainability throughout the industry.

The goals of the fashion studies program are to develop individuals with creative and analytical thinking abilities and to develop competent, resourceful, business leaders who have a liberal and general education. Course work for fashion studies students includes written and oral communications, mathematics, social sciences, natural and physical sciences, and computer applications.

All students participate in an integrated core of studies in textiles, aesthetics, digital communication, fashion forecasting, soft goods evaluation, consumer behavior, historic analysis of fashion, and supply chain management. The program provides both practical experiences and a solid knowledge base for graduate studies.

Our program offers students an academic experience that includes strong industry ties, required internships, and faculty-led study tours within the United States and abroad, an annual public exhibition of student work, and events that bring professionals and alumni to campus.

High School Preparation

Students who meet the Kansas qualified admission requirements are prepared to enter the fashion studies program at K-State. For those who specialize in fashion business, two years of high school algebra and work experience in retailing are recommended. Those specializing in fashion design are expected to have course work and other experiences in sewing, design and art. Cultural activities, travel and exposure to a wide variety of media are also encouraged for all students entering the program.

Computer Access

Fashion Studies students are required to provide a personal laptop computer beginning in the first year of study in the program. Please consult the fashion studies website for minimum computer requirements. As technology changes, so do the computer specifications. Students are encouraged to verify the most current requirements.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (85 Credit Hours)

* If any of the following courses are applied towards University Core Requirements, please consult your advisor on additional courses to meet the 120 hours.

Math Requirement

If not met through K-State Core requirements, MATH 100 is required.

KSC-030
MATH 100 - College Algebra **Credits:** 3

HHS Courses: (3 Credit Hours)

HHS 100 - Well-being 1: You and Community **Credits:** 1
HHS 200 - Well-being 2: Mind and Body **Credits:** 1
HHS 300 - Well-being 3: Money and Meaning **Credits:** 1

Professional Studies: (82 Credit Hours)

Grade of C or Higher Required

FASH 200 - Introduction to Product Development **Credits:** 3
FASH 245 - Fashion Industry **Credits:** 3
FASH 265 - Textiles **Credits:** 3
FASH 325 - Fashion Retailing **Credits:** 3
FASH 330 - Dress and Human Behavior **Credits:** 3
FASH 340 - Fashion Aesthetics **Credits:** 3
FASH 375 - Digital Fashion Communications **Credits:** 3
FASH 430 - History of Fashion **Credits:** 3
FASH 445 - Professional Development **Credits:** 3
FASH 465 - Product Development for Circular Fashion **Credits:** 3
FASH 550 - Fashion Internship **Credits:** 4
FASH 575 - Fashion Forecasting **Credits:** 3
FASH 600 - Soft Goods Supply Chain Management **Credits:** 3
IDFS 350 - Our Sustainable World **Credits:** 3

Specialization in Fashion Design: (39 Credit Hours)

ART 180 - AandD: Color, Light, and Perception Lab **Credits:** 3
ART 195 - Survey of Western Art History I **Credits:** 3
ART 196 - Survey of Western Art History II **Credits:** 3
ART 303 - Visual Communication Design Techniques I **Credits:** 3
ART 503 - Visual Communication Design Techniques II **Credits:** 3
FASH 300 - Fashion Production I **Credits:** 3
FASH 400 - Fashion Illustration and Flats **Credits:** 3
FASH 410 - Fashion Production II **Credits:** 3
FASH 610 - Computer-aided Design of Fashion **Credits:** 3
FASH 655 - Flat Pattern **Credits:** 3
FASH 670 - Pre-Production Technologies **Credits:** 3
FASH 680 - Sustainable Fashion and Color **Credits:** 3
Select one 20th Centurty Art History Elective Course **Credits / Units:** 3
ART 545 - Twentieth Century Art History I: Post-Impressionism to Cubism **Credits:** 3
ART 550 - Twentieth Century Art History II: Dada to Surrealism **Credits:** 3
ART 602 - Twentieth Century Art History III: Abstract Expressionism to Pop Art **Credits:** 3
ART 603 - Twentieth Century Art History IV: Conceptual Art to Contemporary Art **Credits:** 3

Unrestricted Electives: (1 Credit Hour)

Dependent on course selections to fulfill K-State Core requirements.

Total Hours Required for Graduation: 120

Personal Financial Planning (BS)

The personal financial planning program combines course work in personal finance, family relationships and decision making, consumer rights, insurance, investments, sales, retirement and estate planning, economics, and accounting. Emphasis is placed on understanding financial products and how they work, as well as the role of family in financial decisions. The program offers financial planning courses that satisfy CFP® Board's education requirement for the CFP®/CERTIFIED FINANCIAL PLANNER® certification.

The program also offers financial counseling courses that satisfy the education requirements for the Accredited Financial Counselor (AFC®) exam sponsored by the Association for Financial Counseling and Planning Education.

Kansas State University does not certify individuals to use the AFC®, CFP®, CERTIFIED FINANCIAL PLANNER®, and CFP® certification marks. AFC ® is solely granted by the Association for Financial Counseling and Planning Education. CFP® certification is solely granted by the Certified Financial Planner Board of Standards to individuals who, in addition to completing an education requirement such as this CFP Board-Registered program, have met ethics, experience, and examination requirements.

Bachelor's Degree Requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (71-83 Credit Hours)

HHS Courses: (3 Credit Hours)

HHS 100 - Well-being 1: You and Community **Credits:** 1
HHS 200 - Well-being 2: Mind and Body **Credits:** 1
HHS 300 - Well-being 3: Money and Meaning **Credits:** 1

Major Support Courses: (3-12 Credit Hours)

* Required if not met through University Core requirements.

ECON 110 - Principles of Macroeconomics **Credits:** 3
OR
ECON 120 - Principles of Microeconomics **Credits:** 3
MATH 100 - College Algebra **Credits:** 3
OR
College Level-Trigonometry or Calculus Class
PSYCH 110 - General Psychology **Credits:** 3
STAT 225 - Introduction to Statistics **Credits:** 3
OR
STAT 250 - Business and Economic Statistics I **Credits:** 3

Professional Studies: (65-68 Credit Hours)

Grades of C or higher required.

* If any of the following courses are applied towards University Core requirements, additional unrestricted electives are required to meet 120 hours:

HDFS 110 - Introduction to Human Development **Credits:** 3
PFP 105 - Introduction to Personal Financial Planning **Credits:** 3 *(Requires a grade of B or Higher)*
PFP 305 - Advanced Personal Financial Planning **Credits:** 3
PFP 315 - Love and Money **Credits:** 3
PFP 320 - Applied Behavioral Finance **Credits:** 3
PFP 456 - Financial Counseling and Communication **Credits:** 3
PFP 460 - Retirement Planning Concepts **Credits:** 3
PFP 462 - Personal Investment Concepts I **Credits:** 3
PFP 464 - Estate Planning Concepts **Credits:** 3
PFP 466 - Personal Risk Management and Insurance Planning **Credits:** 3
PFP 468 - Professional Practice Management in PFP **Credits:** 1
PFP 472 - Personal Income Tax Concepts **Credits:** 3
PFP 482 - Personal Investment Concepts II **Credits:** 3
PFP 579 - Pre-Internship Orientation in Personal Financial Planning **Credits:** 1
PFP 580 - Internship in Personal Financial Planning **Credits:** 3
PFP 595 - Capstone in Personal Financial Planning **Credits:** 3

Other Supporting Courses: (18 Credit Hours)

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
ACCTG 241 - Introduction to Financial Accounting **Credits:** 3
MANGT 230 - Business Law I **Credits:** 3
MKTG 250 - Introduction to Marketing **Credits:** 3
SALES 300 - Fundamentals of Professional Selling **Credits:** 3

Choose one from the following:
AGEC 513 - Agricultural Finance **Credits:** 3
FINAN 450 - Principles of Finance **Credits:** 3

Track: (6 Credit Hours)

Select one track from the following.

Entrepreneurship and Innovation

ENTRP 340 - Business Innovation and the Entrepreneurial Mindset **Credits:** 3
and **Choose 3 credit hours from Entrepreneurship Minor**

Family Financial Planning

ECON 530 - Money and Banking **Credits:** 3
HDFS 250 - Interpersonal and Family Relationships **Credits:** 3

Investment Management

FINAN 451 - Introduction to Integrated Investment Management **Credits:** 3
FINAN 500 - Investment Management Concepts **Credits:** 3

Sales

SALES 450 - Sales Technology **Credits:** 3
SALES 451 - Sales Force Leadership **Credits:** 3

Agricultural Economics

AGEC 318 - Food and Agribusiness Management **Credits:** 3
AGEC 420 - Commodity Futures **Credits:** 3

Optional Concentration

In consultation with your advisor, select 6 credit hours at the 300-level or above related to your academic and professional goals.

Unrestricted Electives: (3-15 Credit Hours)

Only 100-799 level undergraduate courses may be applied.

Total Hours Required for Graduation: 120

Minor

Fashion Studies Minor

The undergraduate minor in Fashion Studies builds upon the strength of the existing Fashion Studies baccalaureate program. The minor provides students basic understanding of the practice and theoretical underpinnings of the fashion industry.

Program requirement (18 credit hours)

Core Courses (required 9 hours)

FASH 245 - Fashion Industry **Credits:** 3
FASH 265 - Textiles **Credits:** 3
FASH 330 - Dress and Human Behavior **Credits:** 3

*These courses may require additional prerequisite courses in excess of the credit hours needed for the Fashion Studies minor.

Elective courses (9 credit hours)

Choose three courses from the following (a minimum of 3 credit hours MUST be at the 400-level or above):

FASH 325 - Fashion Retailing **Credits:** 3
FASH 340 - Fashion Aesthetics **Credits:** 3
FASH 375 - Digital Fashion Communications **Credits:** 3
FASH 430 - History of Fashion **Credits:** 3
FASH 450 - Showcase of Excellence Event Planning **Credits:** 3
FASH 460 - Soft Goods Evaluation **Credits:** 3
FASH 476 - Merchandise Math and Buying Concepts **Credits:** 3
FASH 575 - Fashion Forecasting **Credits:** 3
FASH 576 - Retail Finance and Merchandise Control **Credits:** 3
FASH 600 - Soft Goods Supply Chain Management **Credits:** 3

Transfer Courses

No more than six (6) credit hours of transfer courses may be used for the FASH minor.

Admission requirements

The FASH Minor is available to current K-State undergraduate students, subject to the following criteria:

Students must submit a Minor Application Form.
The application must be approved by the FASH undergraduate program coordinator in order for the student to be eligible to receive the requested minor.
A 2.0 minimum GPA is required for admittance into the minor.

Completion requirements

The minor in Fashion Studies will be available upon completion of the eighteen (18) required credit hours. To be awarded a minor, the student (a) must not be on probation, (b) must have earned a "C" or higher on coursework applied to the minor, (c) must
meet all requirements of the student's major program, and (d) must be enrolled during the semester in which the minor's requirements are completed.

Financial Counseling Minor

Financial Counseling is a growing field and a necessary personal skill in today's complex financial market. The financial counseling minor provides students with an overview of the content needed to serve as a financial counselor.

At least 9 of the required 15 credit hours must be completed at Kansas State University. Students must achieve a cumulative 2.50 GPA in the five required courses to complete the minor.

Required

PFP 105 - Introduction to Personal Financial Planning **Credits:** 3
PFP 315 - Love and Money **Credits:** 3
PFP 456 - Financial Counseling and Communication **Credits:** 3

Choose 6 hours from the following options:

AMETH 300 - Intercultural Competence in Institutions **Credits:** 3
GERON 215 - Introduction to Gerontology **Credits:** 3
HDFS 250 - Interpersonal and Family Relationships **Credits:** 3
PFP 300 - Problems in Personal Financial Planning **Credits:** 0-3
PFP 305 - Advanced Personal Financial Planning **Credits:** 3
PFP 320 - Applied Behavioral Finance **Credits:** 3
PFP 460 - Retirement Planning Concepts **Credits:** 3
PFP 462 - Personal Investment Concepts I **Credits:** 3
PFP 464 - Estate Planning Concepts **Credits:** 3
PFP 466 - Personal Risk Management and Insurance Planning **Credits:** 3
PFP 472 - Personal Income Tax Concepts **Credits:** 3
PSYCH 505 - Introduction to Psychopathology **Credits:** 3
SOCWK 315 - Human Behavior in the Social Environment I **Credits:** 3

Total Minimum Hours Required for Graduation: 15

Hospitality Management Minor

The undergraduate minor in Hospitality Management provides a theoretical and empirical framework building upon the strength of the existing Hospitality Management baccalaureate program. The minor provides students a basic understanding of the practice and theoretical underpinnings of food and beverage, lodging, or meeting and event management.

The minor in Hospitality Management will be available upon completion of the eighteen (18) required credit hours. To be awarded a minor, the student (a) must not be on probation, and (b) must have a cumulative GPA of 2.0 or higher on coursework applied to the minor. Students who have declared an approved minor and completed all requirements for it will receive official recognition for that emphasis after the degree is posted.

Minor Requirements (18 credit hours)

HM 120 - Introduction to the Hospitality Industry **Credits:** 3
HM 341 - Principles of Food Production Management **Credits:** 3
or
HM 361 - Hotel Operations **Credits:** 3
or
HM 363 - Event Management **Credits:** 3
HM 621 - Hospitality Law **Credits:** 3
or

HM 482 - Human Resource Management in the Hospitality Industry **Credits:** 3
Hospitality Electives **Credits: 9

Elective Options

***Students must choose nine credit hours of elective course options, six credits of these must be at the 400-level or above.*

HM 205 - Food Safety and Protection in Hospitality Operations **Credits:** 1
HM 230 - Issues in Tourism **Credits:** 3
HM 331 - Resort and Club Management **Credits:** 3
HM 440 - Beverage Management **Credits:** 3
HM 341 - Principles of Food Production Management **Credits:** 3
HM 351 - Commercial Food Production Management **Credits:** 3
HM 361 - Hotel Operations **Credits:** 3
HM 362 - Lodging Practicum **Credits:** 1
HM 363 - Event Management **Credits:** 3
HM 370 - The Business of Wedding Consulting **Credits:** 3
HM 321 - Hospitality Service Systems **Credits:** 3
* HM 422 - Cost Controls in Hospitality Operations **Credits:** 3
* HM 423 - Facility Management **Credits:** 3
* HM 424 - Hospitality Sales and Promotion **Credits:** 3
* HM 426 - Fundraising and Nonprofit Events **Credits:** 3
* HM 427 - Travel and Dining Auction Event Management **Credits:** 3

HM 430 - Study Abroad Experience in Hospitality Management **Credits:** 1-3
HM 442 - Introduction to Wines **Credits:** 1
HM 462 - Advanced Wines **Credits:** 1
* HM 463 - Business Event Coordination **Credits:** 3
* HM 464 - Revenue Management **Credits:** 3
* HM 475 - Internship in Hospitality Management **Credits:** 3

HM 482 - Human Resource Management in the Hospitality Industry **Credits:** 3
HM 621 - Hospitality Law **Credits:** 3
* HM 662 - Foodservice Systems Management **Credits:** 3
* HM 663 - Business Event Management **Credits:** 3

HM 664 - Advanced Hotel Operations **Credits:** 3

Note

*These courses may require additional prerequisite courses in excess of the 6 credit hours needed for the Hospitality Management minor.

Other electives or independent study options relevant to the area of hospitality management will also be considered on an individual basis.

Personal Financial Planning Minor

Personal Financial Planning is a rapidly growing field and a necessary personal skill in today's complex financial market. The personal financial planning minor provides students with an overview of the financial planning profession.

At least 9 of the required 15 credit hours must be completed at Kansas State University. Students must achieve a cumulative 2.50 GPA in the five courses taken to complete the minor.

Required courses: 6 credit hours

PFP 105 - Introduction to Personal Financial Planning **Credits:** 3
or
FINAN 450 - Principles of Finance **Credits:** 3 -Grade of "B" or higher required
PFP 305 - Advanced Personal Financial Planning **Credits:** 3 -Grade of "C" or higher required

Electives: 9 credit hours

AGEC 420 - Commodity Futures **Credits:** 3
PFP 460 - Retirement Planning Concepts **Credits:** 3
PFP 462 - Personal Investment Concepts I **Credits:** 3
or
FINAN 510 - Financial Institutions and Markets **Credits:** 3
PFP 464 - Estate Planning Concepts **Credits:** 3
PFP 466 - Personal Risk Management and Insurance Planning **Credits:** 3
PFP 472 - Personal Income Tax Concepts **Credits:** 3
PFP 482 - Personal Investment Concepts II **Credits:** 3

Total Hours Required for Minor: 15

Undergraduate Certificate

Agritourism Undergraduate Certificate

The Agritourism Certificate consists of 15 credit hours and prepares students with the necessary skills to lead and manage businesses in agriculturally based tourism operations. This certificate is available to all current undergraduate students or as a post-baccalaureate certificate. This certificate complements many majors including those interested in hospitality and tourism, small business, agribusiness, agricultural economics, agricultural sales, global food system leadership, outdoor enterprises management, and many more.

The Agritourism Certificate can be completed by degree-seeking students at Kansas State or obtained as a credential on its own (free-standing). Students who do not intend to become a candidate for a bachelor's degree at Kansas State University must apply for admission as a non-degree, certificate-seeking student.

A cumulative GPA of 2.0 or higher across the 15 credit hours is required for graduation. Additionally, each course must be completed with a grade of C or higher.

Required Courses: 12 Credit Hours

AGEC 202 - Small Business Operations **Credits:** 3
HM 230 - Issues in Tourism **Credits:** 3
HM 321 - Hospitality Service Systems **Credits:** 3
HM 424 - Hospitality Sales and Promotion **Credits:** 3
OR

AGEC 515 - Food and Agribusiness Marketing **Credits:** 3

Electives: 3 Credit Hours

AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems **Credits:** 3
AGEC 318 - Food and Agribusiness Management **Credits:** 3
AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
HM 341 - Principles of Food Production Management **Credits:** 3
HM 363 - Event Management **Credits:** 3
HM 504 - Fair and Festival Management **Credits:** 3

Total Hours Required: 15

Kansas Insurance Undergraduate Certificate

The Kansas Insurance Certificate is offered by the Department of Personal Financial Planning. The certificate meets the requirements set forth by the Kansas Insurance Department.

Nine hours of core content and three hours of specified electives are required to complete the certificate.

Students must achieve a cumulative 2.50 GPA in the four courses taken to complete the certificate.

Required (9 credit hours)

PFP 105 - Introduction to Personal Financial Planning **Credits:** 3
PFP 305 - Advanced Personal Financial Planning **Credits:** 3
PFP 466 - Personal Risk Management and Insurance Planning **Credits:** 3

Electives (3 credit hours)

PFP 320 - Applied Behavioral Finance **Credits:** 3
PFP 456 - Financial Counseling and Communication **Credits:** 3
PFP 460 - Retirement Planning Concepts **Credits:** 3
PFP 462 - Personal Investment Concepts I **Credits:** 3
PFP 464 - Estate Planning Concepts **Credits:** 3
PFP 472 - Personal Income Tax Concepts **Credits:** 3

Total hours required: 12

Personal Financial Planning Undergraduate Certificate

The Personal Financial Planning certificate offers classes covering the CFP® core-content areas: tax, investments, estate planning, retirement, and insurance. Students will have met the CFP® educational requirements with completion of the certificate.

At least 15 of the required 21 credit hours must be completed at Kansas State University. Students must achieve a cumulative 2.50 GPA in the seven required courses to complete the certificate.

Required courses

PFP 305 - Advanced Personal Financial Planning **Credits:** 3
PFP 460 - Retirement Planning Concepts **Credits:** 3
PFP 462 - Personal Investment Concepts I **Credits:** 3
PFP 464 - Estate Planning Concepts **Credits:** 3
PFP 466 - Personal Risk Management and Insurance Planning **Credits:** 3
PFP 472 - Personal Income Tax Concepts **Credits:** 3
PFP 595 - Capstone in Personal Financial Planning **Credits:** 3

Total hours required: 21

Other Program Choices

Event and Hospitality Management (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
HM 101 - Freshman Seminar in Hospitality Management	1		
HM 120 - Introduction to the Hospitality Industry	3		
English Requirement	3	**KSC 010**	
Communication Requirement	3	**KSC 020**	
Math and Statistics Requirement	3		
Social and Behavioral Requirement	3	**KSC 050**	
Total Credits: 16			
Semester 2			
HHS 100 - Well-being 1: You and Community	1		
HM 361 - Hotel Operations	3		
Natural and Physical Sciences Requirement	4	**KSC 040**	
Arts & Humanities Requirement	3	**KSC 060**	
ECON 110 - Principles of Macroeconomics **OR**	3		

ECON 120 - Principles of Microeconomics	3		
Total Credits: 14			
Second Year			
Semester 1			
ACCTG 231 - Introduction to Managerial Accounting	3		
HM 205 - Food Safety and Protection in Hospitality Operations	1		
HM 363 - Event Management	3		
English Requirement	3	**KSC 010**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 13			
Semester 2			
ACCTG 241 - Introduction to Financial Accounting	3		
HHS 200 - Well-being 2: Mind and Body	1		
HM 341 - Principles of Food Production Management	3		
MATH 100 - College Algebra	3	**KSC 030**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 13			
Third Year			
Semester 1			
HM 351 - Commercial Food Production Management	3		
MANGT 220 - Principles of Management	3		
STAT 250 - Business and Economic Statistics I	3		

Arts & Humanities Requirement	3	**KSC 060**	
Professional Elective	3		
Total Credits: 15			
Semester 2			
HHS 300 - Well-being 3: Money and Meaning	1		
HM 303 - Operational Research in the Hospitality Industry	3		
HM 321 - Hospitality Service Systems	3		
HM 423 - Facility Management	3		
MKTG 250 - Introduction to Marketing	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Semester 3			
HM 475 - Internship in Hospitality Management	3		
Total Credits: 3			
Fourth Year			
Semester 1			
HM 422 - Cost Controls in Hospitality Operations	3		
HM 424 - Hospitality Sales and Promotion	3		
HM 464 - Revenue Management	3		
HM 621 - Hospitality Law	3		
FINAN 450 - Principles of Finance	3		
Total Credits: 15			

Semester 2			
HM 440 - Beverage Management	3		
HM 482 - Human Resource Management in the Hospitality Industry	3		
HM 650 - Senior Seminar in Hospitality Management	3		
Professional Elective	3		
Professional Elective	3		
Total Credits: 15			
Total Program Hours: 120			

Fashion Studies - Fashion Business (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
FASH 245 - Fashion Industry	3		
FASH 340 - Fashion Aesthetics	3		
English Requirement	3	**KSC 010**	
HHS 100 - Well-being 1: You and Community	1		
Natural and Physical Sciences Requirement	4	**KSC 040**	
Total Credits: 14			
Semester 2			
FASH 200 – Introduction to Product Development	3		
FASH 375 - Digital Fashion Communications	3		
Communication Requirement	3	**KSC 020**	

Social & Behavioral Science Requirement	3	**KSC 050**	
HHS 200 - Well-being 2: Mind and Body	1		
Total Credits: 13			
Semester 3			
IDFS 350 - Our Sustainable World	3		
Total Credits: 3			
Second Year			
Semester 1			
FASH 265 - Textiles	3		
FASH 330 - Dress and Human Behavior	3		
English Requirement	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
HHS 300 - Well-being 3: Money and Meaning	1		
Total Credits: 13			
Semester 2			
FASH 325 - Fashion Retailing	3		
ACCTG 231 - Introduction to Managerial Accounting	3		
Social & Behavioral Science Requirement	3	**KSC 050**	
MKTG 250 - Introduction to Marketing	3		
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Third Year			

Semester 1			
FASH 430 - History of Fashion	3		
FASH 445 - Professional Development	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Professional Elective	3		
Professional Elective	3		
Total Credits: 15			
Semester 2			
FASH 465 – Product Development for Circular Fashion	3		
FASH 476 - Merchandise Math and Buying Concepts	3		
FASH 575 - Fashion Forecasting	3		
Arts and Humanities Requirement	3	**KSC 060**	
Professional Elective	3		
Total Credits: 15			
Semester 3			
FASH 550 - Fashion Internship	4		
Total Credits: 4			
Fourth Year			
Semester 1			
FASH 576 - Retail Finance and Merchandise Control	3		
MKTG 300 - Introduction to Digital Marketing	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	

Professional Elective	3		
Professional Elective	3		
Total Credits: 15			
Semester 2			
FASH 600 - Soft Goods Supply Chain Management	3		
FASH 625 - Sustainable Fashion Business	4		
Professional Elective	3		
Unrestricted Elective	3		
Total Credits: 13			
Total Program Hours: 120			

Fashion Studies - Fashion Design (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
FASH 200 - Introduction to Product Development	3		
FASH 245 - Fashion Industry	3		
FASH 340 - Fashion Aesthetics	3		
HHS 100 - Well-being 1: You and Community	1		
Natural and Physical Sciences Requirement	4	**KSC 040**	
Total Credits: 14			
Semester 2			
Communication Requirement	3	**KSC 020**	

English Requirement	3	**KSC 010**	
FASH 375 - Digital Fashion Communications	3		
HHS 200 - Well-being 2: Mind and Body	1		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 13			
Semester 3			
IDFS 350 - Our Sustainable World	3		
Total Credits: 3			
Second Year			
Semester 1			
FASH 265 - Textiles	3		
FASH 300 - Fashion Production I	3		
FASH 330 - Dress and Human Behavior	3		
ART 180 - AandD: Color, Light, and Perception Lab	3		
ART 195 - Survey of Western Art History I	3	**KSC 060**	
HHS 300 - Well-being 3: Money and Meaning	1		
Total Credits: 16			
Semester 2			
FASH 325 - Fashion Retailing	3		
FASH 400 - Fashion Illustration and Flats	3		
FASH 410 - Fashion Production II	3		
ART 196 - Survey of Western Art History II	3		

ART 303 - Visual Communication Design Techniques I	3		
Total Credits 15			
Third Year			
Semester 1			
English Requirement	3	**KSC 010**	
FASH 430 - History of Fashion	3		
FASH 445 - Professional Development	3		
FASH 610 - Computer-aided Design of Fashion	3		
FASH 680 - Sustainable Fashion and Color	3		
Total Credits: 15			
Semester 2			
FASH 465 – Product Development for Circular Fashion	3		
FASH 575 - Fashion Forecasting	3		
FASH 655 - Flat Pattern	3		
Arts and Humanities Requirement	3	**KSC 060**	
MATH 100 - College Algebra	3	**KSC 030**	
Total Credits: 15			
Summer semester:			
FASH 550 - Fashion Internship	4		
Total Credits: 4			
Fourth Year			

Semester 1			
FASH 670 - Pre-Production Technologies	3		
ART 503 - Visual Communication Design Techniques II	3		
Art and Humanities Requirement	3		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Unrestricted Electives	1		
Total Credits: 13			
Semester 2			
FASH 600 - Soft Goods Supply Chain Management	3		
20th Century Art History Elective	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 12			
Total Program Hours: 120			

Personal Financial Planning (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
HDFS 110 - Introduction to Human Development	3	**KSC 050**	
MATH 100 - College Algebra **OR**	3	**KSC 030**	
College-Level Trigonometry or Calculus Class		**KSC 030**	
PFP 105 - Introduction to Personal Financial Planning	3		

PSYCH 110 - General Psychology	3	**KSC 050**
Total Credits: 15		
Semester 2		
Communication Requirement	3	**KSC 020**
ECON 110 - Principles of Macroeconomics **OR**	3	
ECON 120 - Principles of Microeconomics	3	
HHS 100 - Well-being 1: You and Community	1	
Arts and Humanities Requirement	3	**KSC 060**
Natural and Physical Sciences Requirement	4	**KSC 040**
Total Credits: 14		
Second Year		
Semester 1		
ACCTG 231 - Introduction to Managerial Accounting	3	
PFP 305 - Advanced Personal Financial Planning	3	
PFP 456 - Financial Counseling and Communication	3	
STAT 225 - Introduction to Statistics **OR**	3	
STAT 250 - Business and Economic Statistics I	3	
Free Electives {Institutionally Designated}	3	**KSC 070**
Total Credits: 15		
Semester 2		
ACCTG 241 - Introduction to Financial Accounting	3	
ENGL 200 - Expository Writing II	3	**KSC 010**

MKTG 250 - Introduction to Marketing	3		
PFP 466 - Personal Risk Management and Insurance Planning	3		
PFP 468 - Professional Practice Management in PFP	1		
Free Electives {Institutionally Designated}	3	**KSC 070**	
Total Credits: 16			
Third Year			
Semester 1			
PFP 315 - Love and Money	3		
PFP 460 - Retirement Planning Concepts	3		
PFP 462 - Personal Investment Concepts I	3		
PFP 579 - Pre-Internship Orientation in Personal Financial Planning	1		
SALES 300 - Fundamentals of Professional Selling	3		
Unrestricted Elective	3		
Total Credits: 16			
Semester 2			
FINAN 450 - Principles of Finance **OR**	3		
AGEC 513 - Agricultural Finance	3		
HHS 200 - Well-being 2: Mind and Body	1		
PFP 464 - Estate Planning Concepts	3		
PFP 482 - Personal Investment Concepts II	3		
Arts and Humanities Requirement	3	**KSC 060**	
Unrestricted Elective	3		
Total Credits: 16			

Semester 3			
PFP 580 - Internship in Personal Financial Planning	3		
Total Credits: 3			
Fourth Year			
Semester 1			
HHS 300 - Well-being 3: Money and Meaning	1		
MANGT 230 - Business Law I	3		
PFP 472 - Personal Income Tax Concepts	3		
Personal Financial Planning Track Elective	3		
Unrestricted Elective	3		
Total Credits: 13			
Semester 2			
PFP 320 - Applied Behavioral Finance	3		
PFP 595 - Capstone in Personal Financial Planning	3		
Personal Financial Planning Track Elective	3		
Unrestricted Elective	3		
Total Credits: 12			
Total Program Hours: 120			

School of Health Sciences

The mission of the School of Health Sciences is to empower future health professionals, discovering new knowledge, and positively impacting lives. The School of Health Sciences offers the following Bachelor of Science (BS) programs: Athletic

Training and Rehabilitation Science, Communication Sciences and Disorders, Dietetics, Kinesiology, Integrative Physiology, Nutrition and Health (pre-health), and Nutritional Sciences (pre-med), Public Health, Sports Nutrition.

The school offers accelerated BS/MS and BS/MPH options that allows high-achieving students to more efficiently obtain their graduate degree along with minors and certificates.

Bachelor of Science

Athletic Training and Rehabilitation Sciences (BS)

Kansas State University's Athletic Training and Rehabilitation Sciences undergraduate degree program prepares students for a career as an allied-health professional and/or entry into graduate professional degree programs such as Athletic Training, Physical Therapy, Physician Assistant and Occupational Therapy. The plan of study meets the admission requirements for many health professional programs, specifically the MS in Athletic Training program at Kansas State University. The pre-professional program teaches foundational concepts related to athletic training and rehabilitation sciences with a focus on allowing students to learn to critically apply the knowledge needed to properly manage the health care needs of physically active individuals at all levels and ages. To complement classroom learning, pre-professional students must undergo a period of guided observation at clinical sites and a variety of healthcare settings that are both on and off campus. These experiences allow students to gather firsthand knowledge on employment settings and make informed decisions about their future health career options. Examples of healthcare settings that professionals may be working in include: secondary schools, colleges and universities, professional sports, performing arts, military, industrial, sports medicine clinics (both assisting physicians and in rehabilitation) and other healthcare settings.

K-State has proactively developed this degree program to respond to the Athletic Training Strategic Alliances' decision to require a Master's degree to become eligible for certification as an Athletic Trainer. For more information regarding the MS in AT Degree at Kansas State University, please see our website for the most current information.

To earn the Athletic Training Certification, students must complete an accredited Masters Degree in Athletic Training program and successfully pass the Board Certification (BOC) - Atheletic Training examination. Additional information for high school, transfer and post-baccalaureate students is outlined on the department's webpage at: https://www.hhs.k-state.edu/fndh/academics/undergraduate/athletic-training/. Contact Graduate Athletic Training Program Director, fndh@k-state.edu.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (70 credit hours)

* If any of the following courses are applied towards University Core Requirements, please consult your advisor on additional courses to meet the 120 hours.

HHS Courses: (3 credit hours)

HHS 100 - Well-being 1: You and Community **Credits:** 1
HHS 200 - Well-being 2: Mind and Body **Credits:** 1
HHS 300 - Well-being 3: Money and Meaning **Credits:** 1

Major Support Courses: (26 credit hours)

* Required if not met through K-State Core requirements.

PSYCH 110 - General Psychology **Credits:** 3
BIOL 198 - Principles of Biology **Credits:** 4
BIOL 441 - Human Body I **Credits:** 4
BIOL 442 - Human Body II **Credits:** 4
OR
KIN 360 - Anatomy and Physiology **Credits:** 8
CHM 110 - General Chemistry **Credits:** 3
CHM 111 - General Chemistry Laboratory **Credits:** 1
OR
CHM 210 - Chemistry I **Credits:** 4
PHYS 113 - General Physics I **Credits:** 4
STAT 225 - Introduction to Statistics **Credits:** 3

Professional Courses: (41 credit hours)

***Grades of C or higher required**

Athletic Training and Rehabilitation Sciences Courses: (26 credit hours)

FNDH 115 - Introduction to Health and Nutrition Professions **Credits:** 3
FNDH 132 - Basic Nutrition **Credits:** 3
FNDH 220 - Care and Prevention of Athletic Injuries **Credits:** 3
FNDH 321 - Medical Documentation **Credits:** 2
FNDH 450 - Nutritional Assessment **Credits:** 2
FNDH 551 - Evaluation of Athletic Injuries of the Extremities **Credits:** 3
FNDH 556 - Rehabilitation and Conditioning for Athletic Injuries **Credits:** 3
FNDH 575 - Research in Health Sciences **Credits:** 1
FNDH 635 - Sports Nutrition **Credits:** 3
FNDH 654 - Pathophysiology and Clinical Evaluation **Credits:** 3

Kinesiology Courses: (12 credit hours)

KIN 220 - Biobehavioral Bases of Physical Activity **Credits:** 4
KIN 330 - Biomechanics **Credits:** 3
KIN 335 - Physiology of Exercise **Credits:** 4
KIN 336 - Physiology of Exercise Lab **Credits:** 1

Supportive Course: (3 credit hours)

GERON 215 - Introduction to Gerontology **Credits:** 3

Unrestricted Electives: (16 credit hours)

Dependent on course selections to fulfill K-State Core requirements.

Total Hours Required for Graduation: 120

Communication Sciences and Disorders (BS)

The goal of the communication sciences and disorders major is to educate professionals who are competent to help children and adults with communicative problems of speech, hearing, and language. The undergraduate program provides the foundation for the MS program, which is accredited by the Council on Academic Accreditation, and meets the current requirements in speech language pathology for the Certificate of Clinical Competence of the American Speech–Language-Hearing Association. Determination of the student's program of study and the completion of all requirements for certification are the responsibility of the student and the advisor.

Enrollment in the following specified professional courses requires CSD major, completion of 57 credit hours, and an overall 3.0 GPA, including both K-State and KSIS-credited transfer coursework.

Students participate in observations of a variety of disorders and age groups in the KSU Speech and Hearing Center. Students may on invitation of the faculty, participate in a supervised direct clinical experience at the KSU Speech and Hearing Center.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

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General Education: K-State Core

Program Requirements: 84 credit hours

* If any of the following courses are applied towards University Core Requirements, please consult your advisor on additional courses to meet the 120 hours.

HHS Courses: 3 credit hours

HHS 100 - Well-being 1: You and Community **Credits:** 1
HHS 200 - Well-being 2: Mind and Body **Credits:** 1
HHS 300 - Well-being 3: Money and Meaning **Credits:** 1

Major Support Courses: 16 credit hours

* Required if not met through K-State Core requirements.

If not met through K-State Core requirements, STAT 225 is required.

PSYCH 110 - General Psychology **Credits:** 3
OR
SOCIO 211 - Introduction to Sociology **Credits:** 3
BIOL 101 - Concepts of Biology **Credits:** 4
OR
BIOL 198 - Principles of Biology **Credits:** 4
PHYS 101 - The Physical World **Credits:** 3
OR
CHM 110 - General Chemistry **Credits:** 3
MATH 100 - College Algebra **Credits:** 3
KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Professional Courses: 65 credit hours

Grade of C or higher required for professional courses.
#Enrollment requires CSD major, completion of 57 hours and overall 3.0 GPA, including K-State and transfer coursework.

CSD 347 - Introduction to Phonetics **Credits:** 3
CSD 360 - Structure and Function of the Speech Mechanism **Credits:** 4
CSD 361 - Hearing Science **Credits:** 3
CSD 442 - Developmental Psycholinguistics **Credits:** 3
CSD 443 - Language Assessment and Intervention I **Credits:** 3
CSD 446 - Speech Sound Disorders **Credits:** 4
CSD 515 - Laboratory in Acoustic Phonetics **Credits:** 1
CSD 549 - Clinical Procedures in Communication Disorders **Credits:** 3
CSD 560 - Clinical Research in Communication Sciences and Disorders **Credits:** 3
CSD 567 - Hearing Assessment and Intervention **Credits:** 3
CSD 570 - Hearing and Communication **Credits:** 2
CSD 580 - Neurological Basis of Communication and Swallowing Disorders **Credits:** 3
ECED 310 - Early Childhood **Credits:** 3
HDFS 110 - Introduction to Human Development **Credits:** 3

HDFS 301 - Interpersonal Skills for Helping Professionals **Credits:** 3

OR

ECED 420 - Interaction Techniques with Young Children **Credits:** 3

Professional Electives: 21 credit hours

In consultation with advisor select 21 hours of professional elective credit hours related to academic and professional goals. Students are encouraged to consider minors, certificates, and career track options identified by Communication Sciences and Disorders academic advisor.

The courses listed below are common courses taken as professional electives and students may assume will automatically count towards the 21-hour requirement.* **This list is not exhaustive; *students should further consult with their CSD academic advisor to determine what other classes may apply and which courses best fit their individual academic goals and interests.*

Electives list available at: https://www.hhs.k-state.edu/students/services/programs/

Unrestricted Electives: 2 credit hours

Dependent on course selections to fulfill K-State Core requirements.

Total Hours Required for Graduation: 120

Dietetics (BS)

The BS in Dietetics prepares students for a career as a Registered Dietitian Nutritionist (RDN).â€¯ Dietitians provide medical nutrition therapy for the treatment of diet-related diseases and conditions.â€¯ In addition, dietitians use their expertise in a variety of settings, such as hospitals, medical clinics, local health departments, long-term care and senior living facilities, sports teams, K-12 schools, universities, corporations, restaurants, food manufacturers, and media organizations.â€¯ Dietetic practice areas range from acute clinical care, to school nutrition programs, to nutrition education, and so much more.â€¯ Individuals holding the RDN credential understand the background science and can interpret nutrition research for the public and guide the development of programs that help individuals and groups reach the healthiest state possible.â€¯

The program is accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) as a Didactic Program in Dietetics (DPD). â€¯Graduates of the DPD are eligible to receive an ACEND Didactic Program Verification Statement. This verification statement allows them to apply to accredited supervised practice programs, which is a required step in the pathway to becoming eligible to sit for the RDN credentialing exam. The verification statement also immediately qualifies graduates to take the Commission on Dietetic Registration (CDR) credentialing exam to become a Nutrition and Dietetics Technician, Registered (NDTR).

Students interested in receiving the ACEND Didactic Program Verification Statement must indicate their interest midway through the curriculum. A formal review process is used to verify student eligibility.

Students must:

- have completed or be enrolled in FNDH 400
- have earned a B or higher in all Professional Courses taken prior to the review
- have earned a C or higher in Major Support Courses taken prior to the review
- have an overall GPA of 3.0 or higher in collegiate course work (Waivers of this criteria are considered on a case-by-case basis.)

share any additional information as requested by the review committee.

To earn the RDN credential, students must also earn a master's degree, complete an accredited supervised practice, and successfully pass the Commission on Dietetic Registration (CDR) exam.

Prospective students please visit: https://www.hhs.k-state.edu/fndh/academics/undergraduate/dietetics/

Kansas State University Core: 34-36 Credit Hours

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The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (77 credit hours)

* If any of the following courses are applied towards K-State Core requirements, please consult your advisor on additional courses to meet the 120 hours.

Grades of C or higher required for Major Support Courses.
Grades of B or higher required for Professional Studies Courses.

HHS Courses: (3 credit hours)

HHS 100 - Well-being 1: You and Community **Credits:** 1
HHS 200 - Well-being 2: Mind and Body **Credits:** 1
HHS 300 - Well-being 3: Money and Meaning **Credits:** 1

Major Support Courses: (28 credit hours)

*Required if not met through K-State Core requirements.
***Grades of C or higher required.**

If not met through K-State Core requirements, STAT 225 is required.

BIOL 198 - Principles of Biology **Credits:** 4
BIOL 441 - Human Body I **Credits:** 4
BIOL 442 - Human Body II **Credits:** 4
OR
KIN 360 - Anatomy and Physiology **Credits:** 8
BIOL 255 - General Microbiology **Credits:** 4

CHM 210 - Chemistry I **Credits:** 4
BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
MATH 100 - College Algebra **Credits:** 3
KSC 030
STAT 225 - Introduction to Statistics **Credits:** 3

Professional Studies: (46 credit hours)

***Grades of B or higher required in Professional Studies.**
FNDH 400, FNDH 631, FNDH 632, and FNDH 645 must be completed at Kansas State University.
FNDH 115 - Introduction to Health and Nutrition Professions **Credits:** 3
FNDH 132 - Basic Nutrition **Credits:** 3
FNDH 313 - Science of Food **Credits:** 4
FNDH 321 - Medical Documentation **Credits:** 2
FNDH 400 - Human Nutrition **Credits:** 3
FNDH 442 - Management in Dietetics I **Credits:** 4
*ServSafe Certification is required to complete FNDH 442.
FNDH 450 - Nutritional Assessment **Credits:** 2
FNDH 510 - Life Span Nutrition **Credits:** 2
FNDH 515 - Counseling Strategies in Dietetic Practice **Credits:** 3
FNDH 540 - Nutrition Education and Program Planning **Credits:** 2
FNDH 542 - Management in Dietetics II **Credits:** 2
FNDH 543 - Management in Dietetics III **Credits:** 2
FNDH 575 - Research in Health Sciences **Credits:** 1
FNDH 600 - Public Health Nutrition **Credits:** 3
FNDH 620 - Nutrient Metabolism **Credits:** 3
FNDH 631 - Clinical Nutrition I **Credits:** 3
FNDH 632 - Clinical Nutrition II **Credits:** 3
FNDH 645 - Capstone in Dietetics **Credits:** 1

Unrestricted Electives: (9 credit hours)

Dependent on course selections to fulfill K-State Core requirements.

Total Hours Required for Graduation: 120

Human Nutrition (BS) - Nutrition and Health

The nutrition and health curriculum emphasizes health promotion, chronic disease prevention, human nutrition, and preparation for careers in the healthcare field. Graduates from this program may develop community programs to promote nutrition, health, and wellness, educate people about the relationship between diet and health, and/or work with special groups at risk for nutrition-related health problems, such as pregnant women, infants, and the elderly. Opportunities are available with local health departments/extension offices, wellness programs, and the healthcare industry. This program is also designed to develop our graduates to be competitive applicants for most accredited healthcare programs, including (but not limited to):

Nursing
Physician Assistant
Occupational Therapy
Physical Therapy

Kansas State University Core: 34-36 Credit Hours

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The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (51 Credit Hours)

Grades of C or higher required for Program Requirements
*If any of the following courses are applied towards University Core Requirements, please consult your advisor on additional courses to meet the 120 hours.

HHS Courses: (3 Credit Hours)

HHS 100 - Well-being 1: You and Community **Credits:** 1
HHS 200 - Well-being 2: Mind and Body **Credits:** 1
HHS 300 - Well-being 3: Money and Meaning **Credits:** 1

Major Support Courses: (16 Credit Hours)

*Required if not met through University Core requirements.
If not met through K-State Core requirements, STAT 225 is required.

BIOL 198 - Principles of Biology **Credits:** 4
BIOL 441 - Human Body I **Credits:** 4
BIOL 442 - Human Body II **Credits:** 4
OR
KIN 360 - Anatomy and Physiology **Credits:** 8
CHM 110 - General Chemistry **Credits:** 3
CHM 111 - General Chemistry Laboratory **Credits:** 1
OR
CHM 210 - Chemistry I **Credits:** 4
KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Professional Studies: (32 Credit Hours)

FNDH 115 - Introduction to Health and Nutrition Professions **Credits:** 3
FNDH 132 - Basic Nutrition **Credits:** 3
FNDH 313 - Science of Food **Credits:** 4
FNDH 400 - Human Nutrition **Credits:** 3
FNDH 450 - Nutritional Assessment **Credits:** 2

FNDH 510 - Life Span Nutrition **Credits:** 2
FNDH 540 - Nutrition Education and Program Planning **Credits:** 2
FNDH 575 - Research in Health Sciences **Credits:** 1
Additional FNDH course work
FNDH 600 - Public Health Nutrition **Credits:** 3

Unrestricted Electives: (35 Credit Hours)

Dependent on course selections to fulfill general education requirements.

**At least 16 hours of Unrestricted Electives must be upper-level courses (300-level or above) to reach the required 45 hours of upper-level coursework, or as many as needed to meet the upper-level coursework threshold.*

Total Hours Required for Graduation: 120

Human Nutrition (BS) - Nutritional Sciences

The nutritional sciences program emphasizes the biological and physical sciences and provides students with the background necessary to understand the function and metabolism of nutrients. The program provides an excellent foundation for students considering careers in medicine, dentistry, and other health science professions. The curriculum is designed to meet academic requirements for entering medical school, dental school, or allied health professions.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (82 Credit Hours)

* If any of the following courses are applied towards University Core Requirements, please consult your advisor on additional courses to meet the 120 hours.

Statistics Requirement

If not met through K-State Core requirements, STAT 225 is required.

KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

HHS Courses: (3 Credit Hours)

HHS 100 - Well-being 1: You and Community **Credits:** 1
HHS 200 - Well-being 2: Mind and Body **Credits:** 1
HHS 300 - Well-being 3: Money and Meaning **Credits:** 1

Professional Studies: (79 Credit Hours)

Grade C or higher required.

Biological Sciences: (20 Credit Hours)

BIOL 198 - Principles of Biology **Credits:** 4
BIOL 441 - Human Body I **Credits:** 4
BIOL 442 - Human Body II **Credits:** 4
BIOL 398 - Principles of Genetics **Credits:** 4
BIOL 255 - General Microbiology **Credits:** 4

Physical Sciences: (27 Credit Hours)

BIOCH 521 - General Biochemistry **Credits:** 3
CHM 210 - Chemistry I **Credits:** 4
CHM 230 - Chemistry II **Credits:** 4
CHM 531 - Organic Chemistry I **Credits:** 3
CHM 532 - Organic Chemistry Laboratory **Credits:** 2
CHM 550 - Organic Chemistry II **Credits:** 3
PHYS 113 - General Physics I **Credits:** 4
PHYS 114 - General Physics II **Credits:** 4

Nutritional Sciences: (32 Credit Hours)

FNDH 115 - Introduction to Health and Nutrition Professions **Credits:** 3
FNDH 132 - Basic Nutrition **Credits:** 3
FNDH 313 - Science of Food **Credits:** 4
FNDH 400 - Human Nutrition **Credits:** 3
FNDH 450 - Nutritional Assessment **Credits:** 2
FNDH 510 - Life Span Nutrition **Credits:** 2
FNDH 540 - Nutrition Education and Program Planning **Credits:** 2
FNDH 575 - Research in Health Sciences **Credits:** 1
FNDH 600 - Public Health Nutrition **Credits:** 3
FNDH 620 - Nutrient Metabolism **Credits:** 3
FNDH 631 - Clinical Nutrition I **Credits:** 3
FNDH 632 - Clinical Nutrition II **Credits:** 3

Unrestricted Electives: (4 Credit Hours)

Dependent on course selection to fulfill general education requirements.

Total Hours Required for Graduation: 120

Integrative Physiology (BS)

A total of 120 credit hours are required for graduation. The BS degree is obtained by following the curriculum of the College of Health and Human Sciences.

Integrative Physiology majors must take a minimum of 45 kinesiology credit hours that include 18 credit hours from the lower level courses in Kinesiology, 12 hours of foundational integrative physiology courses, 6 hours of integrative physiology electives and 9 hours of Kinesiology 300 or higher level electives as well as 3 hours of human nutrition.

A minimum grade of C and GPA of 2.2 are required for all kinesiology courses meeting degree requirements.

Kansas State University Core: 34-36 Credit Hours

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General Education: K-State Core

Program Requirements: (73 Credit Hours)

* If any of the following courses are applied towards University Core Requirements, please consult your advisor on additional courses to meet the 120 hours.

HHS Courses: (3 Credit Hours)

HHS 100 - Well-being 1: You and Community **Credits:** 1
HHS 200 - Well-being 2: Mind and Body **Credits:** 1
HHS 300 - Well-being 3: Money and Meaning **Credits:** 1

Major Support Courses: (22 Credit Hours)

* Required if not met through University Core requirements.

If not met through K-State Core requirements, STAT 225 is required.

C or better required.

PSYCH 110 - General Psychology **Credits:** 3
SOCIO 211 - Introduction to Sociology **Credits:** 3
BIOL 198 - Principles of Biology **Credits:** 4
BIOL 441 - Human Body I **Credits:** 4

AND

BIOL 442 - Human Body II **Credits:** 4

OR

KIN 360 - Anatomy and Physiology **Credits:** 8

CHM 110 - General Chemistry **Credits:** 3

AND

CHM 111 - General Chemistry Laboratory **Credits:** 1

OR

CHM 210 - Chemistry I **Credits:** 4

KSC-030

STAT 225 - Introduction to Statistics **Credits:** 3

Professional Courses: (48 Credit Hours)

Grades of 'C' or higher required for Professional Courses.

A GPA of 2.2 for all Kinesiology courses excluding KIN 360 is required.

Lower Level Courses: (18 Credit Hours)

KIN 220 - Biobehavioral Bases of Physical Activity **Credits:** 4
KIN 310 - Measurement and Research Techniques in Kinesiology **Credits:** 4
KIN 335 - Physiology of Exercise **Credits:** 4
KIN 336 - Physiology of Exercise Lab **Credits:** 1
KIN 345 - Exercise Behavioral Science **Credits:** 5

Foundational Integrative Physiology Courses: (12 Credit Hours)

Select 4 courses from the following:

KIN 601 - Cardiorespiratory Physiology **Credits:** 3
KIN 603 - Cardiovascular Physiology **Credits:** 3
KIN 605 - Topics in the Biological Basis of Kinesiology **Credits:** 1-3
KIN 607 - Muscle Physiology **Credits:** 3
KIN 611 - Autonomic Neurophysiology **Credits:** 3

Integrative Physiology Electives: (6 Credit Hours)

Select 2 courses from the following:

KIN 609 - Environmental Physiology **Credits:** 3
KIN 615 - Cardiorespiratory/Comparative Physiology in Health and Disease **Credits:** 3
KIN 617 - Signaling Pathways in Physiology **Credits:** 3
KIN 635 - Nutrition and Exercise **Credits:** 3

Kinesiology Elective Courses 300 Level or higher: (9 Credit Hours)

Select 9 hours of Kinesiology courses above 300 level not applied elsewhere.

Human Nutrition: (3 Credit Hours)

FNDH 400 - Human Nutrition **Credits:** 3

Unrestricted Electives: (13 Credit Hours)

Dependent on course selection to fulfill general education requirements

Total Hours Required for Graduation: 120

Kinesiology (BS)

A total of 120 credit hours are required for graduation. The BS degree is obtained by following the curriculum of the College of Health and Human Sciences.

Kinesiology majors must take a minimum of 39 kinesiology credit hours that include 18 credit hours from the lower evel core, and 21 hours from the upper level core with a requirement of one of the physiology course options, one of the exercise behavioral science course options, and 15 credit hours of 300 level or above Kinesiology courses, with at least 3 of the 15 elective hours being a 600 or higher level course.

A minimum grade of C and GPA of 2.2 are required for all kinesiology courses meeting degree requirements.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements (69 credit hours)

* If any of the following courses are applied towards University Core Requirements, please consult your advisor on additional courses to meet the 120 hours.

HHS Courses: (3 credit hours)

HHS 100 - Well-being 1: You and Community **Credits:** 1
HHS 200 - Well-being 2: Mind and Body **Credits:** 1
HHS 300 - Well-being 3: Money and Meaning **Credits:** 1

Major Support Courses: (18 credit hours)

* Required if not met through University Core requirements.

C or better required.

If not met through K-State Core requirements, STAT 225 is required.

PSYCH 110 - General Psychology **Credits:** 3
SOCIO 211 - Introduction to Sociology **Credits:** 3
BIOL 441 - Human Body I **Credits:** 4
AND
BIOL 442 - Human Body II **Credits:** 4
OR
KIN 360 - Anatomy and Physiology **Credits:** 8
KSC 030
STAT 225 - Introduction to Statistics **Credits:** 3

Professional Studies (39 credit hours)

Grades of 'C' or higher required for Professional Courses.

A GPA of 2.2 for all Kinesiology courses excluding KIN 360 is required.

Kinesiology Lower-level Courses: (18 credits hours)

KIN 220 - Biobehavioral Bases of Physical Activity **Credits:** 4
KIN 310 - Measurement and Research Techniques in Kinesiology **Credits:** 4
KIN 335 - Physiology of Exercise **Credits:** 4
KIN 336 - Physiology of Exercise Lab **Credits:** 1
KIN 345 - Exercise Behavioral Science **Credits:** 5

Exercise Physiology: (3 credit hours)

Choose one of the following courses:

KIN 601 - Cardiorespiratory Physiology **Credits:** 3
KIN 603 - Cardiovascular Physiology **Credits:** 3
KIN 607 - Muscle Physiology **Credits:** 3
KIN 611 - Autonomic Neurophysiology **Credits:** 3

Exercise Behavioral Science: (3 credit hours)

Choose one of the following courses:

KIN 600 - Interpersonal Aspects of Physical Activity **Credits:** 3
KIN 602 - Social Structural Determinants of Physical Activity **Credits:** 3
KIN 610 - Program Planning and Evaluation **Credits:** 3
KIN 612 - Policy, Built Environment and Physical Activity **Credits:** 3
KIN 616 - Obesity and Physical Activity: Behavioral, Environment, and Policy Influences **Credits:** 3
KIN 655 - Individual Physical Activity Promotion **Credits:** 3

Kinesiology Elective Courses 300 level or higher: (24 credit hours)

Select 24 hours of Kinesiology courses above 300 level not applied elsewhere. At least 3 hours must be 600 level or above.

Unrestricted electives: (17 credit hours)

Dependent on course selection to fulfill general education requirements

Total Hours Required for Graduation: 120

Public Health (BS)

A total of 120 credit hours are required for graduation. The BS degree is obtained by following the curriculum of the College of Health and Human Sciences.

Public Health majors must complete a Public Health core of 40 credit hours and complete a minimum of 12 credit hours of Public Health Electives from an accepted list of courses

A minimum grade of C and GPA of 2.2 are required for all Public Health courses meeting degree requirements.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: 70 Credit Hours

*If any of the following courses are applied towards University Core Requirements, please consult your advisor on additional courses to meet the 120 hours.

HHS Courses: 3 Credit Hours

HHS 100 - Well-being 1: You and Community **Credits:** 1
HHS 200 - Well-being 2: Mind and Body **Credits:** 1
HHS 300 - Well-being 3: Money and Meaning **Credits:** 1

Major Support Courses: 15 Credit Hours

*Required if not met through University Core requirements.

If not met through K-State Core requirements, STAT 225 is required.

C or better required.

BIOL 198 - Principles of Biology **Credits:** 4
BIOL 441 - Human Body I **Credits:** 4
AND
BIOL 442 - Human Body II **Credits:** 4
OR
KIN 360 - Anatomy and Physiology **Credits:** 8
BIOCH 110 - Biochemistry and Society **Credits:** 3
OR
CHM 110 - General Chemistry **Credits:** 3
OR
CHM 210 - Chemistry I **Credits:** 4
KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Professional Courses: 52 Credit Hours

Grades of C or higher required for Professional Courses.

GPA of 2.2 required for all Public Health courses meeting degree requirements.

BIOL 330 - Public Health Biology **Credits:** 3
DMP 313 - Introduction To Epidemiology **Credits:** 3
DMP 314 - Environmental and Public Health **Credits:** 3
FNDH 311 - Health Promotion and Behavior **Credits:** 3
KIN 230 - Introduction to Public Health **Credits:** 3
KIN 312 - Methods and Analysis of Public Health **Credits:** 3
KIN 418 - Social Determinants and Diversity in Public Health **Credits:** 3
KIN 419 - Health Policy and Administration **Credits:** 3
KIN 550 - Health Promotion Practice Methods **Credits:** 4
KIN 610 - Program Planning and Evaluation **Credits:** 3
KIN 618 - Seminar Public Health Practice **Credits:** 1
KIN 619 - Public Health Practicum **Credits:** 3
KIN 622 - Capstone Project in Public Health **Credits:** 2
MC 451 - Health Communication **Credits:** 3

Public Health Electives: 12 Credit Hours

Select 12 credit hours from the following courses

AGEC 411 - Agricultural Policy **Credits:** 3
AGRON 335 - Environmental Quality **Credits:** 3
ANTH 383 - Plagues: The Co-Evolutionary History of Humans and Pathogens **Credits:** 3
FNDH 252 - Personal Wellness **Credits:** 3
GEOG 302 - Cartography and Thematic Mapping **Credits:** 3
GERON 625 - Advanced Physical Health and Well-Being of Older Adults **Credits:** 3
HDFS 552 - Social Justice in a Family Context **Credits:** 3

HIST 534 - Social History of Medicine **Credits:** 3
KIN 318 - Rural Community Health **Credits:** 3
HDFS 301 - Interpersonal Skills for Helping Professionals **Credits:** 3
PHILO 365 - Medical Ethics **Credits:** 3
KIN 220 - Biobehavioral Bases of Physical Activity **Credits:** 4
HDFS 302 - Introduction to Human Sexuality **Credits:** 3
FNDH 400 - Human Nutrition **Credits:** 3
GERON 430 - Introduction to Mental Health & Aging **Credits:** 3
PSYCH 518 - Introduction to Health Psychology **Credits:** 3
KIN 381 - Exercise and Chronic Disease **Credits:** 3
KIN 612 - Policy, Built Environment and Physical Activity **Credits:** 3
KIN 616 - Obesity and Physical Activity: Behavioral, Environment, and Policy Influences **Credits:** 3

Unrestricted Electives: 16 Credit Hours

Dependent on course selections to fulfill general education requirements.

Total Hours Required for Graduation: 120

Sports Nutrition (BS)

Sports Nutrition is a 120-credit hour bachelor's degree program focusing on the application of nutrition principles as they relate to sport and human performance. Students will explore how nutrition impacts performance. Graduates of this program may pursue careers in sports nutrition, dietetics, health programs positions offered by hospitals, industries, wellness centers, public and private clinics, fitness camps, and athletic clubs

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (73 Credit Hours)

Grades of C or higher required for Program Requirements.

*If any of the following courses are applied towards University Core Requirements, please consult your advisor on additional courses to meet the 120 hours.

HHS Courses: (3 Credit Hours)

HHS 100 - Well-being 1: You and Community **Credits:** 1
HHS 200 - Well-being 2: Mind and Body **Credits:** 1
HHS 300 - Well-being 3: Money and Meaning **Credits:** 1

Major Support Courses: (21 Credit Hours)

BIOL 198 Principles of Biology requires a C or higher to meet other course requirements.

*Required if not met though University Core requirements.
If not met through K-State Core requirements, STAT 225 is required.

BIOL 198 - Principles of Biology **Credits:** 4
BIOL 441 - Human Body I **Credits:** 4
BIOL 442 - Human Body II **Credits:** 4
OR
KIN 360 - Anatomy and Physiology **Credits:** 8
CHM 210 - Chemistry I **Credits:** 4
BIOCH 265 - Introductory Organic and Biochemistry **Credits:** 5
KSC-030
STAT 225 - Introduction to Statistics **Credits:** 3

Professional Studies: (49 Credit Hours)

FNDH 115 - Introduction to Health and Nutrition Professions **Credits:** 3
FNDH 132 - Basic Nutrition **Credits:** 3
FNDH 400 - Human Nutrition **Credits:** 3
FNDH 313 - Science of Food **Credits:** 4
FNDH 450 - Nutritional Assessment **Credits:** 2
FNDH 510 - Life Span Nutrition **Credits:** 2
FNDH 515 - Counseling Strategies in Dietetic Practice **Credits:** 3
FNDH 540 - Nutrition Education and Program Planning **Credits:** 2
FNDH 575 - Research in Health Sciences **Credits:** 1
FNDH 620 - Nutrient Metabolism **Credits:** 3
FNDH 631 - Clinical Nutrition I **Credits:** 3
FNDH 635 - Sports Nutrition **Credits:** 3
Upper-level FNDH Course Work
KIN 220 - Biobehavioral Bases of Physical Activity **Credits:** 4
KIN 335 - Physiology of Exercise **Credits:** 4
KIN 380 - Principles of Exercise Training **Credits:** 3

Unrestricted Electives: (13 Credit Hours)

Dependent on course selections to fulfill K-State Core requirements.

Total Hours Required for Graduation: 120

Minor

Kinesiology Minor

Students interested in earning a minor in kinesiology choose either the public health/physical activity emphasis or the exercise physiology emphasis. Both emphases require 16 credit hours.

C or better required in all courses to count towards minor.

Exercise Behavioral Science Emphasis (13 credit hours)

KIN 220 - Biobehavioral Bases of Physical Activity **Credits:** 4
KIN 310 - Measurement and Research Techniques in Kinesiology **Credits:** 4
KIN 345 - Exercise Behavioral Science **Credits:** 5

And choose one course from the following (3 credit hours):

KIN 600 - Interpersonal Aspects of Physical Activity **Credits:** 3
KIN 602 - Social Structural Determinants of Physical Activity **Credits:** 3
KIN 610 - Program Planning and Evaluation **Credits:** 3
KIN 612 - Policy, Built Environment and Physical Activity **Credits:** 3
KIN 614 - Physical Activity Behavior Settings: Youth Sport to Senior Centers **Credits:** 3
KIN 655 - Individual Physical Activity Promotion **Credits:** 3
KIN 797 - Topics in Public Health Physical Activity Behavior **Credits:** 3

Total Credit Hours: (16)

OR

Exercise Physiology Emphasis (13 credit hours)

KIN 220 - Biobehavioral Bases of Physical Activity **Credits:** 4
KIN 310 - Measurement and Research Techniques in Kinesiology **Credits:** 4
KIN 335 - Physiology of Exercise **Credits:** 4
KIN 336 - Physiology of Exercise Lab **Credits:** 1

And choose one course from the following (3 credit hours):

KIN 601 - Cardiorespiratory Physiology **Credits:** 3
KIN 603 - Cardiovascular Physiology **Credits:** 3
KIN 605 - Topics in the Biological Basis of Kinesiology **Credits:** 1-3
KIN 607 - Muscle Physiology **Credits:** 3
KIN 609 - Environmental Physiology **Credits:** 3
KIN 611 - Autonomic Neurophysiology **Credits:** 3
KIN 615 - Cardiorespiratory/Comparative Physiology in Health and Disease **Credits:** 3
KIN 635 - Nutrition and Exercise **Credits:** 3
KIN 657 - Integrative Human Pathophysiology **Credits:** 3

KIN 796 - Topics in Exercise Physiology **Credits:** 3

Total Credit Hours: (16)

Nutrition Minor

The purpose for our Nutrition Minor is to provide individuals seeking knowledge and training in nutrition to complement their other academic and professional pursuits.

Core courses (10-12 credit hours)

Students must earn a grade of "C" or better in all coursework.

FNDH 132 - Basic Nutrition **Credits:** 3
FNDH 400 - Human Nutrition **Credits:** 3
FNDH 450 - Nutritional Assessment **Credits:** 2
FNDH 540 - Nutrition Education and Program Planning **Credits:** 2
OR
FNDH 313 - Science of Food **Credits:** 4

Electives (5-6 credit hours)

Select two of the following:

FNDH 510 - Life Span Nutrition **Credits:** 2
FNDH 600 - Public Health Nutrition **Credits:** 3
FNDH 620 - Nutrient Metabolism **Credits:** 3
FNDH 635 - Sports Nutrition **Credits:** 3

Total hours required: 15-18

Undergraduate Certificate

Community Health Undergraduate Certificate

The purpose for the Community Health certificate is to provide specific training to individuals seeking knowledge and experiences pertaining to Community Health. Based on information and dialogue with the Kansas Community Health Worker Coalition, this certificate program was designed to meet their expressed needs of training Community Health Workers. A Community Health Worker is someone who works with and educates small groups and communities to improve the health of their constituents. This academic certificate program is not a licensing or credentialing certification.

This certificate program will provide a community and public health-focused vocational direction for our students, and those currently working in public health seeking enhanced training. This certificate can be completed by degree seeking students at Kansas State University or obtained as a credential on its own (free-standing).

The courses are designed to complement several degree programs within Kansas State University.

Course Requirements (16-19 credit hours)

Students must earn a grade of "C" or better in all coursework.

Required Courses (9 credit hours)

Choose 3 of the following courses.

FNDH 115 - Introduction to Health and Nutrition Professions **Credits:** 3
FNDH 252 - Personal Wellness **Credits:** 3
HDFS 301 - Interpersonal Skills for Helping Professionals **Credits:** 3
KIN 230 - Introduction to Public Health **Credits:** 3

Supportive Courses (6-7 credit hours)

Choose 2 of the following courses.

FNDH 132 - Basic Nutrition **Credits:** 3
GERON 215 - Introduction to Gerontology **Credits:** 3
HDFS 552 - Social Justice in a Family Context **Credits:** 3
IHS 310 - Foundations of Integrative Human Sciences **Credits:** 3
KIN 220 - Biobehavioral Bases of Physical Activity **Credits:** 4
KIN 318 - Rural Community Health **Credits:** 3
KIN 418 - Social Determinants and Diversity in Public Health **Credits:** 3
PFP 105 - Introduction to Personal Financial Planning **Credits:** 3

Practical Requirement (1-3 credit hours)

FNDH 650 - Practicum in Food, Nutrition, Dietetics and Health **Credits:** 1-6
Or
HDFS 411 - HDFS Practicum **Credits:** 0-3
OR
KIN 619 - Public Health Practicum **Credits:** 3

Total hours required: 16-19

Dietetics Undergraduate Certificate

The Dietetics Undergraduate Certificate is a pathway for career-changers to earn a Didactic Program in Dietetics (DPD) Verification Statement from an ACEND-accredited program. The Dietetics Certificate consists of 43 credit hours of certificate courses. The certificate is designed as a free-standing credential. To earn the Dietetics Certificate, learners must already have earned a bachelor's degree. Prerequisite coursework must be completed separately if not included in earned bachelor's degree, with a C or better. Certificate courses must be completed with a B or better. After admission to the Dietetics Undergraduate Certificate, certificate seekers may apply for Didactic Program Verification Statement Consideration. Four required courses must be completed at Kansas State University: FNDH 400, FNDH 631, FNDH 632, and FNDH 645.

Admission Requirements:

Learners must hold a completed bachelor's degree. They must have earned a B or higher in Certificate Courses and a C or higher in any Major Support Courses taken prior to application.

Special Requirements:

Certificate seekers are eligible to receive an ACEND Didactic Program Verification Statement. This verification statement allows them to apply to accredited supervised practice programs, which is a required step in the pathway to becoming eligible to sit for the RDN credentialing exam. The verification statement also immediately qualifies graduates to take the Commission on Dietetic Registration (CDR) credentialing exam to become a Nutrition and Dietetics Technician, Registered (NDTR).

A formal review process is used to verify learner eligibility.

To be eligible to apply, you must have:

completed or be enrolled in FNDH 400

earned a B or higher in Certificate courses taken prior to application

earned a C or higher in Major Support Courses taken prior to application

have an overall GPA of 3.0 or higher in collegiate coursework (Waivers of this criteria are considered on a case-by-case basis.)

share any additional information as requested by the review committee.

To earn the RDN credential, students must also earn a master's degree, complete an accredited supervised practice, and successfully pass the Commission on Dietetic Registration (CDR) exam.

Completion Requirements

Earning a C or better in prerequisite courses.
Earning a B or better in certificate courses.
Successful review of ACEND DPD Verification Statement eligibility requirements.
Completion of these four courses at Kansas State University: FNDH 400, FNDH 631, FNDH 632, and FNDH 645.

Required Courses: (43 Credit Hours)

Four courses must be taken at Kansas State University: FNHD 400, FNDH 631, FNDH 632 and FNDH 645.

FNDH 132 - Basic Nutrition **Credits:** 3
FNDH 313 - Science of Food **Credits:** 4
FNDH 321 - Medical Documentation **Credits:** 2
FNDH 400 - Human Nutrition **Credits:** 3
FNDH 442 - Management in Dietetics I **Credits:** 4
FNDH 450 - Nutritional Assessment **Credits:** 2
FNDH 510 - Life Span Nutrition **Credits:** 2
FNDH 515 - Counseling Strategies in Dietetic Practice **Credits:** 3
FNDH 540 - Nutrition Education and Program Planning **Credits:** 2
FNDH 542 - Management in Dietetics II **Credits:** 2
FNDH 543 - Management in Dietetics III **Credits:** 2
FNDH 575 - Research in Health Sciences **Credits:** 1
FNDH 600 - Public Health Nutrition **Credits:** 3
FNDH 620 - Nutrient Metabolism **Credits:** 3
FNDH 631 - Clinical Nutrition I **Credits:** 3
FNDH 632 - Clinical Nutrition II **Credits:** 3
FNDH 645 - Capstone in Dietetics **Credits:** 1

Total Hours Required: 43

Fitness Professional Undergraduate Certificate

The Fitness Professional Certificate, offered through the Department of Kinesiology, provides students with the tools to pursue a career in the Fitness or Strength and Conditioning industry. Students gain foundational knowledge in the science of movement (neuromuscular, biomechanics, physiology). Students will also have the opportunity to prepare to sit for a nationally recognized certification from organizations including, but not limited to, the American College of Sports Medicine, the National Strength and Conditioning Association, the National Academy of Sports Medicine, and the American Council on Exercise. Students will also have the option to learn directly from successful professionals in the field. This certificate is available to both online and on-campus students.

Graduation Requirements

C or better in all Kinesiology courses.

Required Courses (12-15)

KIN 108 - Strength and Conditioning Specialist **Credits:** 2
OR
KIN 382 - Strength and Conditioning for Performance **Credits:** 3

KIN 109 - Professional Development for Coaches **Credits:** 2
OR
KIN 380 - Principles of Exercise Training **Credits:** 3

KIN 320 - Motor Learning and Development **Credits:** 3
KIN 384 - Certifications in Health and Fitness **Credits:** 3

KIN 111 - Adaptive Training **Credits:** 2
OR
KIN 385 - Fundamentals of Health and Fitness **Credits:** 3

Total Credits: 12-15

Health Coach Undergraduate Certificate

The purpose for the Health Coaching certificate is to provide specific training to individuals seeking work as a Health Coach. A Health Coach is someone who educates and mentors individuals, or small groups, to improve their health behaviors. This is not a national certification program, but an academic certificate that can be completed by degree seeking students at Kansas State University or obtained by non-degree seeking as a credential on its own (free-standing).

Course Requirements: 15-16 credit hours

Didactic:

Students must earn a grade of "C" or better in all coursework.
FNDH 252 - Personal Wellness **Credits:** 3

FNDH 450 - Nutritional Assessment **Credits:** 2
FNDH 515 - Counseling Strategies in Dietetic Practice **Credits:** 3
PSYCH 110 - General Psychology **Credits:** 3

Practicum/Internship: 1 credit hour

FNDH 650 - Practicum in Food, Nutrition, Dietetics and Health **Credits:** 1-6

Electives, select one of the following:

FNDH 313 - Science of Food **Credits:** 4
FNDH 220 - Care and Prevention of Athletic Injuries **Credits:** 3
EDCI 300 - Principles of Coaching **Credits:** 3
GERON 215 - Introduction to Gerontology **Credits:** 3
PSYCH 505 - Introduction to Psychopathology **Credits:** 3
PSYCH 518 - Introduction to Health Psychology **Credits:** 3
PSYCH 520 - Life Span Personality Development **Credits:** 3

Total hours required: 15-16

Other Program Choices

Athletic Training and Rehabilitation Sciences (BS) Academic Degree Map

First Year	Hours	K-State	
Semester 1			
CHM 110 - General Chemistry	3	**KSC 040**	
CHM 111 - General Chemistry Laboratory **OR**	1		
CHM 210 - Chemistry I	4		
FNDH 115 - Introduction to Health and Nutrition Professions	3		
FNDH 132 - Basic Nutrition	3		
English Requirement	3	**KSC 010**	
Math and Statistics Requirement	3	**KSC 030**	
Total Credits: 15			

Semester 2			
BIOL 198 - Principles of Biology	4		
HHS 100 - Well-being 1: You and Community	1		
KIN 220 - Biobehavioral Bases of Physical Activity	4		
Communication Requirement	3	**KSC 020**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 15			
Second Year			
Semester 1			
KIN 360 - Anatomy and Physiology **OR**	8		
BIOL 441 - Human Body I	4		
BIOL 442 - Human Body II	4		
FNDH 220 - Care and Prevention of Athletic Injuries	3		
PSYCH 110 - General Psychology	3		
Total Credits: 14			
Semester 2			
FNDH 321 - Medical Documentation	2		
GERON 215 - Introduction to Gerontology	3		
HHS 200 - Well-being 2: Mind and Body	1		
KIN 335 - Physiology of Exercise	4		
KIN 336 - Physiology of Exercise Lab	1		
English Requirement	3	**KSC 010**	
Total Credits: 14			

Third Year			
Semester 1			
FNDH 551 - Evaluation of Athletic Injuries of the Extremities	3		
FNDH 635 - Sports Nutrition	3		
Natural and Physical Sciences Requirement	4		
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 16			
Semester 2			
FNDH 450 - Nutritional Assessment	2		
FNDH 556 - Rehabilitation and Conditioning for Athletic Injuries	3		
FNDH 654 - Pathophysiology and Clinical Evaluation	3		
HHS 300 - Well-being 3: Money and Meaning	1		
STAT 225 - Introduction to Statistics	3		
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Fourth Year			
Semester 1			
KIN 330 - Biomechanics	3		
PHYS 113 - General Physics I	4		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	

Unrestricted Elective	3		
Total Credits: 16			
Semester 2			
FNDH 575 - Research in Health Sciences	1		
Unrestricted Elective	3		
Unrestricted Elective	3		
Unrestricted Elective	3		
Unrestricted Elective	3		
Unrestricted Elective	1		
Total Credits: 14			
Total Program Hours: 120			

Communication Sciences and Disorders (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
HDFS 110 - Introduction to Human Development	3		
HHS 100 - Well-being 1: You and Community	1		
English Requirement	3	**KSC 010**	
Free elective	3		
PSYCH 110 - General Psychology **OR**	3		
SOCIO 211 - Introduction to Sociology	3		
Communications Requirement	3	**KSC 020**	
Total Credits: 16			

Semester 2		
MATH 100 - College Algebra	3	
HHS 200 - Well-being 2: Mind and Body	1	
PHYS 101 - The Physical World **OR**	3	
CHM 110 - General Chemistry	3	
Arts and Humanities Requirement	3	**KSC 060**
Free Elective (Instituionally Designated Area)	3	**KSC 070**
Professional Elective	3	
Total Credits: 16		
Second Year		
Semester 1		
ECED 310 - Early Childhood	3	
English Requirement	3	**KSC 010**
Natural and Physical Sciences Requirement	4	**KSC 040**
Social and Behavioral Sciences Requirement	3	**KSC 050**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
STAT 225 - Introduction to Statistics	3	**KSC 030**
BIOL 198 - Principles of Biology **OR**	4	
BIOL 101 - Concepts of Biology	4	
Arts and Humanities Requirement	3	**KSC 060**

Social and Behavioral Sciences Requirement	3	**KSC 050**	
Professional Elective	3		
Total Credits: 16			
Third Year			
Semester 1			
CSD 347 - Introduction to Phonetics	3		
CSD 361 - Hearing Science	3		
CSD 442 - Developmental Psycholinguistics	3		
Professional Elective	3		
Professional Elective	3		
Total Credits: 15			
Semester 2			
CSD 360 - Structure and Function of the Speech Mechanism	4		
CSD 446 - Speech Sound Disorders	4		
CSD 567 - Hearing Assessment and Intervention	3		
HHS 300 - Well-being 3: Money and Meaning	1		
Professional Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
CSD 515 - Laboratory in Acoustic Phonetics	1		
CSD 549 - Clinical Procedures in Communication Disorders	3		

CSD 560 - Clinical Research in Communication Sciences and Disorders	3		
HDFS 301 - Interpersonal Skills for Helping Professionals **OR**	3		
ECED 420 - Interaction Techniques with Young Children	3		
CSD 443 - Language Assessment and Intervention I	3		
Total Credits: 13			
Semester 2			
CSD 570 - Hearing and Communication	2		
CSD 580 - Neurological Basis of Communication and Swallowing Disorders	3		
Professional Elective	3		
Professional Elective	3		
Unrestricted Elective	2		
Total Credits: 13			
Total Program Hours:120			

Dietetics (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
CHM 210 - Chemistry I	4		
FNDH 115 - Introduction to Health and Nutrition Professions	3		
FNDH 132 - Basic Nutrition	3		
English Requirement	3	**KSC 010**	
MATH 100 - College Algebra	3		
Total Hours: 16			

Semester 2			
Communication Requirement	3	**KSC 020**	
Natural and Physical Sciences Requirement	4	**KSC 040**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Arts and Humanities Requirement	3	**KSC 060**	
STAT 225 - Introduction to Statistics	3	**KSC 030**	
Total Hours: 16			
Second Year			
Semester 1			
BIOL 198 - Principles of Biology	4		
HHS 100 - Well-being 1: You and Community	1		
HHS 200 - Well-being 2: Mind and Body	1		
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Hours: 15			
Semester 2			
BIOL 441 - Human Body I	4		
BIOL 442 - Human Body II **OR**	4		
KIN 360 - Anatomy and Physiology	8		
FNDH 313 - Science of Food	4		
Unrestricted Elective	3		

Total Hours: 15			
Third Year			
Semester 1			
BIOCH 265 - Introductory Organic and Biochemistry	5		
HHS 300 - Well-being 3: Money and Meaning	1		
FNDH 321 - Medical Documentation	2		
English Requirement	3	**KSC 010**	
Arts and Humanities Requirement	3	**KSC 060**	
Total Hours: 14			
Semester 2			
BIOL 255 - General Microbiology	4		
FNDH 442 - Management in Dietetics I	4		
FNDH 400 - Human Nutrition	3		
FNDH 450 - Nutritional Assessment	2		
FNDH 540 - Nutrition Education and Program Planning	2		
FNDH 575 - Research in Health Sciences	1		
Total Hours: 16			
Fourth Year			
Semester 1			
FNDH 542 - Management in Dietetics II	2		
FNDH 600 - Public Health Nutrition	3		
FNDH 620 - Nutrient Metabolism	3		

FNDH 631 - Clinical Nutrition I	3		
Unrestricted Elective	3		
Total Credits: 14			
Semester 2			
FNDH 510 - Life Span Nutrition	2		
FNDH 515 - Counseling Strategies in Dietetic Practice	3		
FNDH 543 - Management in Dietetics III	2		
FNDH 632 - Clinical Nutrition II	3		
FNDH 645 - Capstone in Dietetics	1		
Unrestricted Elective	3		
Total Credits: 14			
Total Program Hours: 120			

Human Nutrition - Nutrition and Health (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
CHM 110 - General Chemistry	3		
CHM 111 - General Chemistry Laboratory **OR**	1		
CHM 210 - Chemistry I	4		
FNDH 115 - Introduction to Health and Nutrition Professions	3		
FNDH 132 - Basic Nutrition	3		
English Requirement	3	**KSC 010**	
Communication Requirement	3	**KSC 020**	

Total Credits: 16			
Semester 2			
BIOL 198 - Principles of Biology	4		
HHS 100 - Well-being 1: You and Community	1		
STAT 225 - Introduction to Statistics	3	**KSC 030**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 14			
Second Year			
Semester 1			
HHS 200 - Well-being 2: Mind and Body	1		
FNDH Elective	3		
English Requirement	3	**KSC 010**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Arts & Humanities Requirement	3	**KSC 060**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Semester 2			
BIOL 441 - Human Body I	4		
BIOL 442 - Human Body II **OR**	4		
KIN 360 - Anatomy and Physiology	8		
Natural & Physical Sciences Requirement	4	**KSC 040**	

Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Third Year			
Semester 1			
FNDH 313 - Science of Food	4		
FNDH Elective	3		
HHS 300 - Well-being 3: Money and Meaning	1		
Unrestricted Elective	3		
Unrestricted Elective - Upper Level	3		
Total Credits: 14			
Semester 2			
FNDH 400 - Human Nutrition	3		
FNDH 450 - Nutritional Assessment	2		
FNDH 540 - Nutrition Education and Program Planning	2		
FNDH Elective	3		
Unrestricted Elective	3		
Unrestricted Elective - Upper Level	2		
Total Credits: 15			
Fourth Year			
Semester 1			
FNDH 600 - Public Health Nutrition	3		
Unrestricted Elective	3		

Unrestricted Elective	3		
Unrestricted Elective - Upper Level	3		
Unrestricted Elective - Upper Level	3		
Total Creddits: 15			
Semester 2			
FNDH 510 - Life Span Nutrition	2		
FNDH 575 - Research in Health Sciences	1		
Unrestricted Elective	3		
Unrestricted Elective	3		
Unrestricted Elective - Upper Level	3		
Unrestricted Elective - Upper Level	3		
Total Credits: 15			
Total Program Hours: 120			

Human Nutrition - Nutritional Sciences (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
BIOL 198 - Principles of Biology	4	**KSC 040**	
CHM 210 - Chemistry I	4		
FNDH 115 - Introduction to Health and Nutrition Professions	3		
FNDH 132 - Basic Nutrition	3		
Communication Requirement	3	**KSC 020**	
Total Credits: 17			

Semester 2			
BIOL 255 - General Microbiology	4		
CHM 230 - Chemistry II	4		
HHS 100 - Well-being 1: You and Community	1		
English Requirement	3	**KSC 010**	
STAT 225 - Introduction to Statistics	3	**KSC 030**	
Total Credits: 15			
Second Year			
Semester 1			
BIOL 398 - Principles of Genetics	4		
CHM 531 - Organic Chemistry I	3		
HHS 200 - Well-being 2: Mind and Body	1		
English Requirement	3	**KSC 010**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 17			
Semester 2			
CHM 532 - Organic Chemistry Laboratory	2		
CHM 550 - Organic Chemistry II	3		
FNDH 400 - Human Nutrition	3		
FNDH 450 - Nutritional Assessment	2		
PHYS 113 - General Physics I	4		

Total Credits: 14			
Third Year			
Semester 1			
BIOL 441 - Human Body I	4		
HHS 300 - Well-being 3: Money and Meaning	1		
PHYS 114 - General Physics II	4		
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
BIOCH 521 - General Biochemistry	3		
BIOL 442 - Human Body II	4		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Unrestricted Elective	3		
Total Credits:13			
Fourth Year			
Semester 1			
FNDH 600 - Public Health Nutrition	3		
FNDH 620 - Nutrient Metabolism	3		
FNDH 631 - Clinical Nutrition I	3		
Natural and Physical Sciences Requirement	4		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	

Unrestricted Elective	1		
Total Credits: 17			
Semester 2			
FNDH 313 - Science of Food	4		
FNDH 510 - Life Span Nutrition	2		
FNDH 540 - Nutrition Education and Program Planning	2		
FNDH 575 - Research in Health Sciences	1		
FNDH 632 - Clinical Nutrition II	3		
Total Credits: 12			
Total Program Hours: 120			

Integrative Physiology (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
KIN 220 - Biobehavioral Bases of Physical Activity	4		
English Requirement	3	**KSC 010**	
PSYCH 110 - General Psychology	3		
BIOL 198 - Principles of Biology	4		
HHS 100 - Well-being 1: You and Community	1		
Total Credits: 15			
Semester 2			
Communication Requirement	3	**KSC 020**	

Unrestricted Elective	3		
SOCIO 211 - Introduction to Sociology	3		
KIN 310 - Measurement and Research Techniques in Kinesiology	4		
STAT 225 - Introduction to Statistics	3	**KSC 030**	
Total Credits: 16			
Second Year			
Semester 1			
KIN 345 - Exercise Behavioral Science	5		
BIOL 441 - Human Body I **AND**	4		
BIOL 442 - Human Body II **OR**	4		
KIN 360 - Anatomy and Physiology	8		
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 16			
Semester 2			
KIN 335 - Physiology of Exercise	4		
KIN 336 - Physiology of Exercise Lab	1		
CHM 110 - General Chemistry **AND**	3		
CHM 111 - General Chemistry Laboratory **OR**	1		
CHM 210 - Chemistry I	4		
HHS 200 - Well-being 2: Mind and Body	1		
English Requirement	3	**KSC 010**	
Total Credits: 13			

Third Year			
Semester 1			
Foundations in Integrative Physiology Course	3		
Integrative Physiology Elective	3		
Natural and Physical Sciences Requirement	4	**KSC 040**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 16			
Semester 2			
Foundations in Integrative Physiology Course	3		
Kinesiology 300 Level Elective	3		
Kinesiology 300 Level Elective	3		
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Fourth Year			
Semester 1			
Foundations in Integrative Physiology Course	3		
Integrative Physiology Elective3	3		
HHS 300 - Well-being 3: Money and Meaning	1		
Kinesiology 300 Level Elective	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Unrestricted Elective	3		

Total Credits: 16			
Semester 2			
Foundations in Integrative Physiology Course	3		
FNDH 400 - Human Nutrition	3		
Unrestricted Elective	3		
Unrestricted Elective	4		
Total Credits: 13			
Total Program Hours: 120			

Kinesiology (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
KIN 220 - Biobehavioral Bases of Physical Activity	4		
English Requirement	3	**KSC 010**	
PSYCH 110 - General Psychology	3		
Unrestricted Elective	3		
SOCIO 211 - Introduction to Sociology	3		
Total Credits 16			
Semester 2			
Communication Requirement	3	**KSC 020**	
BIOL 198 - Principles of Biology	4		
HHS 100 - Well-being 1: You and Community	1		

Arts and Humanities Requirement	3	**KSC 060**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 14			
Second Year			
Semester 1			
KIN 310 - Measurement and Research Techniques in Kinesiology	4		
KIN 345 - Exercise Behavioral Science	5		
Natural and Physical Sciences Requirement	4	**KSC 040**	
STAT 225 - Introduction to Statistics	3	**KSC 030**	
Total Credits: 16			
Semester 2			
English Requirement	3	**KSC 010**	
BIOL 441 - Human Body I **AND**	4		
BIOL 442 - Human Body II **OR**	4		
KIN 360 - Anatomy and Physiology	8		
Arts and Humanities Requirement	3	**KSC 060**	
HHS 200 - Well-being 2: Mind and Body	1		
Total Credits: 15			
Third Year			
Semester 1			
KIN 335 - Physiology of Exercise	4		
KIN 336 - Physiology of Exercise Lab	1		

Exercise Behavioral Science Elective	3		
300-Level or Higher Elective	3		
Social and Behavioral Sciences Requirement	3	**KSC 050**	
HHS 300 - Well-being 3: Money and Meaning	1		
Total Credits: 15			
Semester 2			
Exercise Physiology Elective	3		
Kinesiology 300-Level or Higher Elective	3		
Kinesiology 300-Level or Higher Elective	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Fourth Year			
Semester 1			
Kinesiology 600-Level or Higher Elective	3		
Kinesiology 300-Level or Higher Elective	3		
Kinesiology 300-Level or Higher Elective	3		
Unrestricted Elective	3		
Unrestricted Elective	3		
Total Credits: 14			
Semester 2			
Kinesiology 300-Level or Higher Elective	3		

Kinesiology 300-Level or Higher Elective	3		
Unrestricted Elective	3		
Unrestricted Elective	3		
Unrestricted Elective	3		
Total Program Hours: 120			

Public Health (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
KIN 230 - Introduction to Public Health	3		
English Requirement	3	**KSC 010**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
HHS 100 - Well-being 1: You and Community	1		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Semester 2			
HHS 200 - Well-being 2: Mind and Body	1		
English Requirement	3	**KSC 010**	
Communication Requirement	3	**KSC 020**	
Unrestricted Elective	3		
Natural & Physical Sciences Requirement	4	**KSC 040**	
Total Credits: 14			

Second Year			
Semester 1			
CHM 110 - General Chemistry **AND**	3		
CHM 111 - General Chemistry Laboratory **OR**	1		
CHM 210 - Chemistry I	4		
BIOL 198 - Principles of Biology	4		
BIOL 330 - Public Health Biology	3		
FNDH 311 - Health Promotion and Behavior	3		
Total Credits: 14			
Semester 2			
Public Health Elective	3		
STAT 225 - Introduction to Statistics	3	**KSC 030**	
DMP 313 - Introduction To Epidemiology	3		
DMP 314 - Environmental and Public Health	3		
Total Credits: 12			
Third Year			
Semester 1			
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
MC 451 - Health Communication	3		
Arts & Humanities Requirement	3	**KSC 060**	
KIN 312 - Methods and Analysis of Public Health	3		
KIN 550 - Health Promotion Practice Methods	4		

Total Credits: 16			
Semester 2			
Public Health Elective	1		
KIN 618 - Seminar Public Health Practice	1		
KIN 418 - Social Determinants and Diversity in Public Health	3		
KIN 360 - Anatomy and Physiology **OR**	8		
BIOL 441 - Human Body I **AND**	4		
BIOL 442 - Human Body II	4		
Total Credits: 15			
Semester 3			
KIN 619 - Public Health Practicum	3		
Total Credits: 3			
Fourth Year			
Semester 1			
Public Health Elective	3		
Public Health Elective	3		
Free Elective	3		
Free Elective	3		
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			

KIN 622 - Capstone Project in Public Health	2	
HHS 300 - Well-being 3: Money and Meaning	1	
KIN 419 - Health Policy and Administration	3	
KIN 610 - Program Planning and Evaluation	3	
Unrestricted Elective	3	
Unrestricted Elective	3	
Total Credits: 15		
Total Program Hours: 120		

Sports Nutrition (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
CHM 210 - Chemistry I	4	**KSC 040**
FNDH 132 - Basic Nutrition	3	
KIN 220 - Biobehavioral Bases of Physical Activity	4	
ENGL 100 - Expository Writing I	3	**KSC 010**
STAT 225 - Introduction to Statistics	3	**KSC 030**
Total Credits: 17		
Semester 2		
BIOL 198 - Principles of Biology	4	
FNDH 115 - Introduction to Health and Nutrition Professions	3	
HHS 100 - Well-being 1: You and Community	1	
Communication Requirement	3	**KSC 020**

Social and Behavioral Sciences Requirement	3	**KSC 050**	
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 17			
Second Year			
Semester 1			
KIN 360 - Anatomy and Physiology **OR**	8		
BIOL 441 - Human Body I	4		
BIOL 442 - Human Body II	4		
Natural and Physical Sciences Requirement	4		
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
FNDH 400 - Human Nutrition	3		
HHS 200 - Well-being 2: Mind and Body	1		
KIN 335 - Physiology of Exercise	4		
ENGL 200 - Expository Writing II	3	**KSC 010**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 14			
Third Year			
Semester 1			
FNDH 313 - Science of Food	4		
HHS 300 - Well-being 3: Money and Meaning	1		

Social and Behavioral Sciences Requirement	3	**KSC 050**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
FNDH Upper-Level Elective	3		
Total Credits: 14			
Semester 2			
BIOCH 265 - Introductory Organic and Biochemistry	5		
FNDH 450 - Nutritional Assessment	2		
FNDH 515 - Counseling Strategies in Dietetic Practice	3		
FNDH 540 - Nutrition Education and Program Planning	2		
Unrestricted Elective	3		
Total Credits: 15			
Fourth Year			
Semester 1			
FNDH 620 - Nutrient Metabolism	3		
FNDH 631 - Clinical Nutrition I	3		
FNDH 635 - Sports Nutrition	3		
KIN 380 - Principles of Exercise Training	3		
FNDH Upper-Level Elective	3		
Total Credits: 15			
Semester 2			
FNDH 510 - Life Span Nutrition	2		
FNDH 575 - Research in Health Sciences	1		

Unrestricted Elective	3		
Unrestricted Elective	3		
Unrestricted Elective	3		
Unrestricted Elective	1		
Total Credits: 13			
Total Program Hours: 120			

School of Human Sciences

Melinda Markham, School Director

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The School of Human Sciences is focused on the study of individuals and families from a multidisciplinary perspective. Programs emphasize developmental processes throughout the life cycle, interpersonal relationships, and educational programming for children and families.

Undergraduate programs include conflict resolution, early childhood education, family and consumer sciences education, gerontology, human development and family science, and integrative human sciences.

The department places great importance on laboratory and applied learning experiences, along with classroom experiences. On-campus applied learning experiences for undergraduate students are available in the Family Center and the Center for Child Development.

Bachelor of Science

Early Childhood Education (BS)

The Bachelor of Science in Early Childhood Education is for students who wish to work in birth through kindergarten education programs in administrative or teaching positions, including work with parents and community resources as well as with young children with and without disabilities.

Students desiring to earn the Kansas teaching license in early childhood unified, birth through kindergarten must be admitted to teacher education to enroll in the required licensure track courses.

Bachelor's degree requirements

Practicum courses

Before participating in practicum/lab courses involving contact with children, students must undergo a physical examination, including a tuberculosis test, at their own expense. Students must not have any physical or mental conditions that would interfere with the health, safety, or welfare of children.

Students will be screened by the Kansas Department of Health and Environment for criminal and child abuse histories (through the Kansas Bureau of Investigation and Kansas Department for Children and Family Services). Students with questionable histories, as determined by the Kansas Department of Health and Environment, will be dropped from the early childhood education program.

Student teaching

Enrollment in student teaching is by permission only. Student teaching may not be taken until the student has obtained full admission into teacher education and has completed ECED 543 , ECED 544 , ECED 553 , ECED 554 , ECED 555 .

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (80 credit hours)

If any of the following courses are applied towards K-State Core requirements, please consult your advisor on additional courses to meet the 120 hours.

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC 030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

HHS Courses: (3 credit hours)

HHS 100 - Well-being 1: You and Community **Credits:** 1
HHS 200 - Well-being 2: Mind and Body **Credits:** 1
HHS 300 - Well-being 3: Money and Meaning **Credits:** 1

Professional Courses: (77 credit hours)

Teaching Field Courses require grades of C or higher and overall 2.75 GPA on all courses applied to degree. GPA is calculated from K-State and transfer courses. Teaching field courses include professional and track options.

ECED 210 - Introduction to Early Childhood Education **Credits:** 3
ECED 310 - Early Childhood **Credits:** 3 *
ECED 313 - Pre-Professional Experiences in Early Childhood Unified **Credits:** 1 *
ECED 420 - Interaction Techniques with Young Children **Credits:** 3 *
ECED 428 - Exceptional Development in Early Childhood **Credits:** 3
ECED 530 - Teaching & Learning in Early Childhood Education **Credits:** 3
ECED 531 - Developmental Curriculum in Early Childhood Education **Credits:** 3
ECED 566 - Emergent Literacy **Credits:** 3
ECED 597 - Home, School, and Community Partnerships **Credits:** 3
ECED 720 - Challenging Behaviors in Early Childhood **Credits:** 3
ECED 728 - Assessment of Young Children **Credits:** 3
EDSP 777 - Social Emotional Learning and Behavior Management Strategies **Credits:** 3
HDFS 110 - Introduction to Human Development **Credits:** 3
HDFS 250 - Interpersonal and Family Relationships **Credits:** 3

Track Courses: (22 credit hours)

Select one of the following tracks:
- Licensure
- Non-Licensure

Licensure Track**:

Student teaching: Enrollment in student teaching is by permission only. Student teaching may not be taken until student has obtained full admission into teacher education and has completed ECED 543 , ECED 544 , ECED 553 , ECED 554 , and ECED 555 .

ECED 543 - Reflective Practice: Infants and Toddlers **Credits:** 3 *
ECED 544 - Reflective Practice: Preschoolers and Kindergartners **Credits:** 3 *
ECED 553 - Early Childhood Practicum I: Infants and Toddlers **Credits:** 1 *
ECED 554 - Early Childhood Practicum II: Preschoolers **Credits:** 1 *
ECED 555 - Early Childhood Practicum III: Kindergartners **Credits:** 1 *
ECED 556 - Early Childhood Practicum 4: Home Visiting **Credits:** 1
ECED 598 - Student Teaching in Early Childhood Unified **Credits:** 9 ***
ECED 797 - Home Visiting Programs for Young Children and Families **Credits:** 3

Non-Licensure Track:

ECED 311 - Infant Toddler Development and Programs **Credits:** 3
ECED 312 - Infant Observation Lab **Credits:** 1 *
ECED 450 - Environments in Early Childhood **Credits:** 3
ECED 451 - Administering Early Childhood Programs **Credits:** 3
ECED 546 - Preschool Lab **Credits:** 2 *

ECED 588 - Applied Learning in Early Childhood Programs **Credits:** 7 ***
ECED 740 - Play Facilitation **Credits:** 3

Notes

*Physical exam and KBI/DCF clearance required.

**Admission to teacher's education is required.

***First aid/CPR certification required before enrollment in ECED 588 and ECED 598 . This requirement can be met by successful completion of Red Cross or American Heart Association courses.

Professional Electives: (15 credit hours)

Area of Concentration (Consult with Advisor)

Unrestricted Electives: (6 credit hours)

Dependent on course selection to fulfill K-State Core requirements.

Total Hours Required for Graduation: 120

Family and Consumer Sciences Education - Teacher Certification (BS)

This degree program is for students who plan to teach family and consumer sciences at the middle, junior high, senior high, or postsecondary levels. Family and consumer sciences educators equip students with the life skills they need to be healthy individuals and build strong families. Graduates of the program primarily work in middle and secondary schools, and cooperative extension.

Upon successful completion of all family and consumer sciences licensure requirements and the PRAXIS II content assessment test for family and consumer sciences, graduates are eligible to apply for licensure to teach family and consumer sciences in Kansas schools. See theâ€¯College of Educationâ€¯section of this catalog for more information on eligibility requirements, admission to teacher education, and admission to the professional semester.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (85-86 credit hours)

***Minimum GPA 2.75 for all degree courses.**

*If any of the following courses are applied towards University Core requirements, please consult your advisor on additional courses to meet the 120 hours.

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

HHS Courses: (3 credit hours)

HHS 100 - Well-being 1: You and Community **Credits:** 1
HHS 200 - Well-being 2: Mind and Body **Credits:** 1
HHS 300 - Well-being 3: Money and Meaning **Credits:** 1

Professional Courses: (43 credit hours)

***Grade of C or higher required for all Professional Courses.**

IHS 110 - Introduction to Integrative Human Sciences **Credits:** 1
IHS 310 - Foundations of Integrative Human Sciences **Credits:** 3
CNRES 300 - Introduction to Conflict Resolution **Credits:** 3

FCSED Content Areas

FNDH

FNDH 132 - Basic Nutrition **Credits:** 3
FNDH 252 - Personal Wellness **Credits:** 3
FNDH 313 - Science of Food **Credits:** 4

IDFS

FASH 245 - Fashion Industry **Credits:** 3
IDSN 210 - Design and Behavior in the Interior Environment **Credits:** 3

IDFS 350 - Our Sustainable World **Credits:** 3

HDFS & ECED

HDFS 110 - Introduction to Human Development **Credits:** 3
HDFS 250 - Interpersonal and Family Relationships **Credits:** 3
HDFS 302 - Introduction to Human Sexuality **Credits:** 3
ECED 310 - Early Childhood **Credits:** 3

PFP

PFP 105 - Introduction to Personal Financial Planning **Credits:** 3

Additional Content: (2 credit hours)

Additional FCSED content course selected with approval from FCSED faculty

Professional Education Courses: (39-40 credit hours)

An average 3.0 GPA is required on all K-State and transfer credits applied, with no grade lower than a 'C' prior to Block III Professional semester.

Non-Blocked Courses

The following courses can be taken prior to admission to Teacher Education:
EDCI 110 - Foundations of Education
EDCI 200 - Teaching as a Career
EDCI 230 - Early Field Experience
EDCI 110 - Foundations of Education **Credits:** 3
EDCI 200 - Teaching as a Career **Credits:** 1
EDCI 230 - Early Field Experience **Credits:** 1
EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
EDCI 405 - Middle-Level Education **Credits:** 2
EDSEC 620 - Principles and Philosophy of Career and Technical Education **Credits:** 2-3

Blocked Courses

The following courses are blocked in three sequential semesters. Courses in each block are taken concurerntly and are prerequisite to subsequent block or courses.

Block I

EDCI 315 - Educational Psychology **Credits:** 3
EDCI 320 - Core Teaching Skills and Lab **Credits:** 3
EDSP 323 - Exceptional Students in the Secondary School **Credits:** 2

Block II

EDSEC 455 - Teaching in a Multicultural Society **Credits:** 1
EDSEC 477 - Content Area Literacies and Diverse Learners **Credits:** 2
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1
IHS 420 - Family and Consumer Science Methods for Secondary and Middle Schools **Credits:** 3
IHS 425 - Family and Consumer Science Education Practicum **Credits:** 2

Block III

***EDSEC 586 must be taken for 12 credit hours.**
EDSEC 586 - Teaching Internship in Secondary Schools **Credits:** 1-12

Unrestricted Electives: (0-1 credit hour)

Dependent on course selections to fulfill general education requirements.

Total Hours Required for Graduation: 120

Human Development and Family Science (BS)

The Bachelor of Science in Human Development and Family Science provides students with the opportunity to integrate classroom knowledge and real-world experiences to achieve a sophisticated understanding of how individuals, relationships, and families develop and function across the life course. It also provides a strong foundation for students wanting to go to graduate or professional school, as well as those wanting to pursue a career in:

healthcare (e.g., child life, nursing, occupational therapy, elder care)
human services (e.g., youth support services parent education, cooperative extension)
student affairs (e.g., school counseling, academic advising, college student development),
family intervention (e.g., couple and family therapy, divorce mediation, victim services),
government or public policy (e.g., child/family advocacy, juvenile justice, military family services), or
other helping professions (see more career options here: https://bit.ly/HDFS Careers).

Moreover, students majoring in HDFS can tailor their degree to fit their career goals by selecting a minor, certificate, area of concentration, or internship. HDFS graduates are well-prepared to improve the lives of individuals and families by enhancing their socioemotional, psychosocial, and relational health and well-being.

Bachelor's degree requirements

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (66 Credit Hours)

* If any of the following courses are applied towards University Core Requirements, please consult your advisor on additional courses to meet the 120 hours.

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC 030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

HHS Courses: (3 Credit Hours)

HHS 100 - Well-being 1: You and Community **Credits:** 1
HHS 200 - Well-being 2: Mind and Body **Credits:** 1
HHS 300 - Well-being 3: Money and Meaning **Credits:** 1

Professional Courses: (63 Credit Hours)

Grade of C or higher required.

ECED 310 - Early Childhood **Credits:** 3
HDFS 110 - Introduction to Human Development **Credits:** 3
HDFS 250 - Interpersonal and Family Relationships **Credits:** 3
HDFS 301 - Interpersonal Skills for Helping Professionals **Credits:** 3
HDFS 302 - Introduction to Human Sexuality **Credits:** 3
HDFS 375 - Introduction to Research Methods in Human Development and Family Science **Credits:** 3
HDFS 460 - Families and Social Policy **Credits:** 3
HDFS 506 - Adolescent and Emerging Adult Development **Credits:** 3
HDFS 510 - Midlife to Late Adult Development **Credits:** 3
HDFS 550 - Application of Theories in HDFS **Credits:** 3
HDFS 552 - Families in Context **Credits / Units:** 3
HDFS 570 - Program Development and Implementation **Credits:** 3
Choose TWO of the following:
HDFS 305 - Family Violence Across the Life Course **Credits:** 3
HDFS 525 - Community Mental and Relationship Health **Credits:** 3
CNRES 530 - Coping with Life Crises **Credits:** 3
Choose ONE of the following:
PFP 105 - Introduction to Personal Financial Planning **Credits:** 3
PFP 315 - Love and Money **Credits:** 3

Minor, Certificate, Concentration: (18 Credit Hours)

In consultation with advisor, select 18 credit hours related to your academic and professional goals. At least 9 hours must be at the 300-level or above. In addition, students are encouraged to participate in an experiential learning opportunity (e.g., internship, research experience, etc.) related to their minor, certificate, or concentration/career-track they select.

Unrestricted Electives: (20 Credit Hours)

Dependent on course selections to fulfill general education requirements.

Total Hours Required for Graduation: 120

Integrative Human Sciences (BS)

The BS in Integrative Human Sciences offers an integrative approach to studying the well-being of individuals, families and communities in a global environment. Students incorporate areas of concentration of their choice from the human sciences to translate and address contemporary societal issues.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (80 Credit Hours)

*If any of the following courses are applied towards University Core requirements, please consult your advisor on additional courses to meet the 120 hours.

Math Requirement

If not met through K-State Core requirements, MATH 160 is required.

KSC-030
MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3

HHS Courses: (3 Credit Hours)

HHS 100 - Well-being 1: You and Community **Credits:** 1
HHS 200 - Well-being 2: Mind and Body **Credits:** 1
HHS 300 - Well-being 3: Money and Meaning **Credits:** 1

Professional Courses: (77 Credit Hours)

Grade of C or higher required for professional courses.

Integrative Human Sciences: (17 Credit Hours)

IHS 110 - Introduction to Integrative Human Sciences **Credits:** 1
IHS 310 - Foundations of Integrative Human Sciences **Credits:** 3
IHS 399 - Integrative Human Sciences Applied Learning Orientation **Credits:** 1
IHS 400 - IHS Applied Learning Experience **Credits:** 1-3
HDFS 110 - Introduction to Human Development **Credits:** 3
HDFS 250 - Interpersonal and Family Relationships **Credits:** 3

Select one course from the following:

CNRES 300 - Introduction to Conflict Resolution **Credits:** 3
CNRES 531 - Interpersonal Conflict Resolution **Credits:** 3
CNRES 532 - Conflict Resolution across Cultures & Contexts **Credits:** 3
CNRES 534 - Conflict in Organizations **Credits:** 3

Areas of Concentration: (60 Credit Hours)

In consultation with their advisor, students select 60 additional credit hours organized into areas of concentration related to the students personal or professional goals. Areas of concentration can be minors and certificates. 15 of these credit hours must be in the College of Health and Human Sciences, and 30 of the 60 hours must be at the undergraduate upper-level # to meet graduation requirements.

Area of Concentration #1: (15 Credit Hours)

Area of Concentration #2: (15 Credit Hours)

Area of Concentration #3: (15 Credit Hours)

Area of Concentration #4: (15 Credit Hours)

Unrestricted Electives: (6 Credit Hours)

Dependent on course selections to fulfill general education requirements.

Total Hours Required for Graduation: 120

Minor

Children in Group Settings Minor

The undergraduate minor in Children in Group Settings (CGS) provides the theoretical and empirical foundation for best practice in the field of early care and education. Human service professionals are provided with the requisite knowledge of the developmental changes that typically occur in the early childhood years, variations in development that may occur, and how best to support children's learning and development.

Minor Requirements: (16 credits)

ECED 310 - Early Childhood **Credits:** 3
ECED 313 - Pre-Professional Experiences in Early Childhood Unified **Credits:** 1 *
ECED 210 - Introduction to Early Childhood Education **Credits:** 3
ECED 420 - Interaction Techniques with Young Children **Credits:** 3
ECED 428 - Exceptional Development in Early Childhood **Credits:** 3
ECED 450 - Environments in Early Childhood **Credits:** 3
No more than six (6) credit hours of transfer courses may be used for the ECE minor.
*Physical exam and KBI/DCF clearance required.

Graduation Requirements:

The minor in Children in Group Settings will be available upon the completion of the sixteen (16) required hours. To be awarded a minor, the student must a) not be on probation, b) have a cumulative GPA of 2.75 or higher on coursework applied to the minor, and c) have a C or better in all coursework applied to the minor.

Total Hours Required: 16

Conflict Analysis and Trauma Studies Minor

The undergraduate minor in Conflict Analysis and Trauma Studies provides a theoretical and empirical framework and model for analysis and study of trauma, violence, conflict, and their consequences. This emerging study provides students, faculty, and human service professionals the knowledge for establishing post-trauma and post-conflict reconstruction practice, research, service and policy to improve interpersonal and social systems. For more information on the minor or to contact CATS faculty, please go to our website.

Program requirements (18 credit hours)

Core courses (required 6 credit hours)

CNRES 529 - Trauma and Traumatic Stress **Credits:** 3
CNRES 531 - Interpersonal Conflict Resolution **Credits:** 3

Elective courses (6 credit hours)

Choose a minimum of two courses from:

CNRES 530 - Coping with Life Crises **Credits:** 3
CNRES 532 - Conflict Resolution across Cultures & Contexts **Credits:** 3
CNRES 533 - Prevention & Intervention of Violence **Credits:** 3
CNRES 534 - Conflict in Organizations **Credits:** 3
CNRES 535 - Divorce and Child Custody Mediation **Credits:** 3
CNRES 536 - Conflict and Trauma in International Settings **Credits:** 3
CNRES 537 - Elder and Family Decision Making **Credits:** 3
CNRES 538 - Advanced Trauma and Traumatic Stress **Credits:** 3
CNRES 539 - Grief and Loss Across the Lifespan **Credits:** 3

Additional course options (6 credit hours)

CNRES 300 - Introduction to Conflict Resolution **Credits:** 3
COMM 480 - Intercultural Communication **Credits:** 3
COMM 542 - Relational Communication **Credits:** 3
HDFS 305 - Family Violence Across the Life Course **Credits:** 3
GWSS 380 - Global Struggles for Feminist, Queer, and Trans Justice **Credits:** 3
GWSS 560 - Intersections of Violence and Resistance **Credits:** 3
HIST 551 - History of Family Violence **Credits:** 3
POLSC 642 - International Conflict **Credits:** 3
PSYCH 540 - Psychology of Gender **Credits:** 3
PSYCH 563 - Gender Issues in the Workplace **Credits:** 3
SOCIO 260 - Social Problems **Credits:** 3
SOCIO 363 - Global Problems **Credits:** 3
SOCIO 507 - International Development and Social Change **Credits:** 3
THTRE 673 - Theatre for Conflict Resolution **Credits:** 3
Other electives or independent study options relevant to the area of conflict resolution and trauma studies (e.g., Faculty-Led International Study)

Transfer Courses

No more than six (6) credit hours of transfer courses may be used for the CATS Minor.

Admission requirements

The CATS Minor is available to current K-State undergraduate students, post-baccalaureate K-State students, and non-K-State graduates of an accredited University subject to the following criteria:

Students must submit a Minor Application Form.
The application must be approved by the CATS Minor co-chairs in order for the student to be eligible to receive the requested minor.
Applicants must have completed all necessary graduate requirements from an accredited 4-year university.

All post-baccalaureate students will be handled through Global Campus. The Core and Elective courses (listed above) for the CATS Minor currently are provided both on campus and through distance delivery; courses listed under "additional course options" are available according to individual department offerings.

Completion requirements

The minor in Conflict Analysis and Trauma Studies will be available upon completion of the eighteen (18) required credit hours. To be awarded a minor, the student (a) must not be on probation, (b) must have a cumulative GPA of 2.5 or higher on coursework applied to the minor, (c) must meet all requirements of the student's major program, and (d) must be enrolled during the semester in which the minor's requirements are completed.

Gerontology Minor

The 15-credit hour undergraduate minor in gerontology prepares students from diverse majors to work with the globally aging population. This program is available to all students currently enrolled at Kansas State University. Graduates of Kansas State University may also enroll in this program as a post-baccalaureate student. Students can enroll by contacting the School of Human Sciences (http://humansci@k-state.edu).

Required Courses (6 credit hours)

GERON 215 - Introduction to Gerontology **Credits:** 3
GERON 577 - Introduction to Policy and Advocacy in Gerontology **Credits:** 3

Elective Courses (9 credit hours)

Additional courses may be approved for gerontology credit on a case-by-case basis by the Center on Aging Academic Affairs Committee.

Students will choose 9 credit hours of electives from this list based upon their professional goals. At least 3 elective credit hours must be taken in gerontology. Courses not listed here may be approved on a case-by-case basis by the gerontology advisor and/or program director.

See department list: **Minor Electives**

Total Minimum Hours Required for Graduation: 15

Human Development and Family Science Minor

The Undergraduate Minor in Human Development and Family Science allows students to integrate the study of families, human development, and relationships with their major.

Admission criteria: The minor in Human Development and Family Science will be available upon the completion of the fifteen (15) required hours. To be awarded a minor, the student must a) not be on probation, and b) have a C or better in all coursework applied to the minor.

Minor Requirements (15 hours)

Required courses (6 hours)

HDFS 110 - Introduction to Human Development **Credits:** 3
HDFS 250 - Interpersonal and Family Relationships **Credits:** 3

Elective options: (9 hours)

ECED 310 - Early Childhood **Credits:** 3
HDFS 301 - Interpersonal Skills for Helping Professionals **Credits:** 3
HDFS 302 - Introduction to Human Sexuality **Credits:** 3
HDFS 305 - Family Violence Across the Life Course **Credits:** 3
HDFS 307 - Introduction to Marriage and Family Therapy **Credits:** 3
HDFS 375 - Introduction to Research Methods in Human Development and Family Science **Credits:** 3
HDFS 460 - Families and Social Policy **Credits:** 3
HDFS 475 - Introduction to Child Life **Credits:** 3
HDFS 506 - Adolescent and Emerging Adult Development **Credits:** 3
HDFS 510 - Midlife to Late Adult Development **Credits:** 3
HDFS 525 - Community Mental and Relationship Health **Credits:** 3
HDFS 550 - Application of Theories in HDFS **Credits:** 3

HDFS 552 - Social Justice in a Family Context **Credits:** 3
HDFS 570 - Program Development and Implementation **Credits:** 3
Any HDFS 300, 400, or 500 level elective **Credits / Units:** 3

Total hours required: 15

Interdisciplinary Conflict Resolution Minor

The Minor in Interdisciplinary Conflict Resolution provides a theoretical and empirical framework building upon the strengths of several programs across campus. The minor provides students an understanding of the theoretical and practical aspects of analyzing and resolving conflict within the context of a variety of academic disciplines and professional careers.

Admission Requirements:

The ICR Minor is available to current K-State undergraduate students, post-baccalaureate K-State students, and non-K-State graduates of an accredited University subject to the following criteria:

Students must submit a Minor Application Form.

The application must be approved by the ICR Minor chair in order for the student to be eligible to receive the requested minor.

Applicants must have completed all necessary graduate requirements from an accredited 4-year university.

All post-baccalaureate students will be handled through Global Campus. The Conflict Resolution courses (listed above) for the ICR Minor currently are provided both on campus and through distance delivery; any non-CNRES course options listed in the three tracks are available according to individual department offerings.

Program: (15 credits)

Required Courses: (6 hours)

CNRES 531 - Interpersonal Conflict Resolution **Credits:** 3
CNRES 532 - Conflict Resolution across Cultures & Contexts **Credits:** 3

Elective Options: (9 hours)

Select one of the following three tracks:

Organizational Track

CNRES 534 - Conflict in Organizations **Credits:** 3
COMM 326 - Group Communication **Credits:** 3
COMM 425 - Organizational Communication **Credits:** 3
COMM 465 - Communication and Conflict **Credits:** 3
COMM 537 - Negotiation and Communication **Credits:** 3
MANGT 260 - Workplace Dynamics and Organizational Culture **Credits:** 3
MANGT 520 - Organizational Behavior **Credits:** 3
MANGT 530 - Labor Relations and Negotiations **Credits:** 3
POLSC 526 - Comparative Political Institutions **Credits:** 3

POLSC 638 - Ethnic Conflict **Credits:** 3
POLSC 642 - International Conflict **Credits:** 3
POLSC 651 - International Organization **Credits:** 3
PSYCH 538 - Cross-Cultural Psychology **Credits:** 3
PSYCH 556 - Multicultural Psychology **Credits:** 3
PSYCH 560 - Personnel Psychology **Credits:** 3
PSYCH 563 - Gender Issues in the Workplace **Credits:** 3
PSYCH 564 - Psychology of the Workplace **Credits:** 3

Family Track

CNRES 530 - Coping with Life Crises **Credits:** 3
CNRES 535 - Divorce and Child Custody Mediation **Credits:** 3
CNRES 537 - Elder and Family Decision Making **Credits:** 3
CNRES 599 - Conflict Resolution Practicum **Credits:** 3
COMM 130 - Interpersonal Communication **Credits:** 3
COMM 465 - Communication and Conflict **Credits:** 3
COMM 542 - Relational Communication **Credits:** 3
CRIM 470 - The Criminal Justice System and Family Violence **Credits:** 3
HDFS 301 - Interpersonal Skills for Helping Professionals **Credits:** 3
HDFS 305 - Family Violence Across the Life Course **Credits:** 3
POLSC 606 - Gender and Politics **Credits:** 3
SOCWK 200 - Basic Skills for Working with People **Credits:** 3
SOCWK 610 - Topics in Social Work **Credits:** 1-3

Legal Track

CNRES 528 - Alternative Dispute Resolution Approaches **Credits:** 3
CNRES 535 - Divorce and Child Custody Mediation **Credits:** 3
CNRES 599 - Conflict Resolution Practicum **Credits:** 3
COMM 260 - Introduction to Trial Advocacy **Credits:** 3
COMM 475 - Legal Communication **Credits:** 3
COMM 537 - Negotiation and Communication **Credits:** 3
CRIM 261 - Introduction to Criminology and Criminal Justice **Credits:** 3
CRIM 364 - Criminological Perspectives **Credits:** 3
CRIM 665 - Women and Crime **Credits:** 3
MANGT 230 - Business Law I **Credits:** 3
POLSC 611 - The Legislative Process **Credits:** 3
POLSC 612 - The Judicial Process **Credits:** 3
POLSC 614 - Constitutional Law **Credits:** 3
POLSC 615 - The Constitution, Civil Rights and Civil Liberties **Credits:** 3
POLSC 647 - International Law **Credits:** 3
POLSC 670 - Law, Politics, and Literature **Credits:** 3
SOCIO 260 - Social Problems **Credits:** 3
SOCIO 500 - Sociological Perspectives on Contemporary Issues **Credits:** 1-3
SOCIO 635 - Sociology of Human Trafficking **Credits:** 3
SOCWK 350 - Social Work with Criminal Offenders and Victims **Credits:** 3
SOCWK 610 - Topics in Social Work **Credits:** 1-3

Completion Requirements:

The Interdisciplinary Conflict Resolution Minor will be available upon the completion of the fifteen (15) required hours. To be awarded a minor, the student must a) not be on probation, and b) have a C or better in all coursework applied to the minor.

Total Hours Required: 15

Pre-Couple and Family Therapy Minor

The pre-couple and family therapy minor is available to all undergraduate students in any college as an interdisciplinary minor. Most programs of study will allow the student to take both a primary major and a minor within the normal four-year academic program of his/her college.

The undergraduate minor in pre-couple and family therapy is a 15-credit-hour program of study which includes 9 credit hours of required courses and 6 credit hours of electives taken from a list of approved courses offered in departments across the university. The minor provides a foundation in couple and family therapy theory and foundational helping skills designed to prepare students for graduate education in couple and family therapy.

Completion Requirements

The minor in pre-Couple and Family Therapy will be available upon the completion of the fifteen (15) required hours. To be awarded a minor, the student must a) not be on probation and b) have a C or better in all coursework applied to the minor.

Minor Requirements: (15 hours)

Required Courses: (9 hours)

HDFS 301 - Interpersonal Skills for Helping Professionals **Credits:** 3
HDFS 307 - Introduction to Marriage and Family Therapy **Credits:** 3
HDFS 525 - Community Mental and Relationship Health **Credits:** 3

Elective Options: (6 hours)

CNRES 529 - Trauma and Traumatic Stress **Credits:** 3
CNRES 530 - Coping with Life Crises **Credits:** 3
HDFS 300 - Problems in Human Development and Family Science **Credits:** 1-18
HDFS 302 - Introduction to Human Sexuality **Credits:** 3
HDFS 303 - Developing Intimate Relationships **Credits:** 3
HDFS 305 - Family Violence Across the Life Course **Credits:** 3
PSYCH 505 - Introduction to Psychopathology **Credits:** 3
PSYCH 535 - Social Psychology **Credits:** 3
SOCWK 315 - Human Behavior in the Social Environment I **Credits:** 3
SOCWK 510 - Social Welfare as a Social Institution **Credits:** 3

Total Hours Required: 15

Pre-Kindergarten Minor

The undergraduate minor in Pre-Kindergarten Education is restricted to K-State students enrolled in the teacher's education program in Family and Consumer Sciences (FACS) or Elementary Education (ELED). Coursework for the minor builds on pre-service teacher education coursework required for the FACS and ELED programs and addresses content knowledge and skills needed for licensed Pre-Kindergarten teachers in Kansas.

The Pre-K Minor is available to current K-State undergraduate students who are admitted to or have completed the teacher's education program in Elementary Education or Family and Consumer Sciences, subject to the following criteria:

Students must submit a Minor Application Form.

The application must be approved by the Pre-K Minor admissions committee for eligibility to receive the minor.

Required Courses: (16 credit hours)

ECED 310 - Early Childhood **Credits:** 3
ECED 313 - Pre-Professional Experiences in Early Childhood Unified **Credits:** 1
ECED 450 - Environments in Early Childhood **Credits:** 3
ECED 531 - Developmental Curriculum in Early Childhood Education **Credits:** 3
ECED 566 - Emergent Literacy **Credits:** 3
ECED 740 - Play Facilitation **Credits:** 3

Total Hours Required: 16

No more than six (6) credit hours of transfer courses may be used for the Pre-K minor.

Well-Being Minor

The 15 credit hour minor examines the scholarship on well-being from an integrated and systemic approach within the human sciences and provides evidence-based strategies for enhancing well-being within career pathways as well as implications for one's own well-being.

Required Courses (3 credit hours)

HHS 100 - Well-being 1: You and Community **Credits:** 1
HHS 200 - Well-being 2: Mind and Body **Credits:** 1
HHS 300 - Well-being 3: Money and Meaning **Credits:** 1

Elective Courses (12 credit hours)

Pick one course from each of the four areas.

Community Well-being

Choose one course from the list below:

HDFS 301 - Interpersonal Skills for Helping Professionals **Credits:** 3

IDSN 210 - Design and Behavior in the Interior Environment **Credits:** 3
IDFS 350 - Our Sustainable World **Credits:** 3
DMP 314 - Environmental and Public Health **Credits:** 3
PSYCH 565 - Occupational Health Psychology **Credits:** 3

Social Well-being

Choose one course from the list below:

HDFS 250 - Interpersonal and Family Relationships **Credits:** 3
CNRES 300 - Introduction to Conflict Resolution **Credits:** 3
CNRES 530 - Coping with Life Crises **Credits:** 3
THTRE 664 - Creative Drama **Credits:** 3

Financial Well-being

Choose one course from the list below:

PFP 105 - Introduction to Personal Financial Planning **Credits:** 3
PFP 320 - Applied Behavioral Finance **Credits:** 3
HM 230 - Issues in Tourism **Credits:** 3
FINAN 250 - Personal Investing and Risk Management **Credits:** 3

Physical Well-being

Choose one course from the list below:

FNDH 132 - Basic Nutrition **Credits:** 3
FNDH 252 - Personal Wellness **Credits:** 3
KIN 220 - Biobehavioral Bases of Physical Activity **Credits:** 4
KIN 380 - Principles of Exercise Training **Credits:** 3
KIN 385 - Fundamentals of Health and Fitness **Credits:** 3
ANTH 315 - Introduction to Medical Anthropology & Global Health **Credits:** 3
EDCEP 103 - Healthful and Safe College Life **Credits:** 3
PSYCH 518 - Introduction to Health Psychology **Credits:** 3

Total Hours Required: 15

Secondary Major

Gerontology Secondary Major

The 24-credit hour secondary major in gerontology prepares students from diverse majors to work with the globally aging population. This program is available to all students currently enrolled at Kansas State University. Most programs of study will allow students to complete both their primary and secondary majors within a typical four-year academic program. Students can enroll by contacting the Center on Aging (humansci@k-state.edu).

Students will choose from one of the following tracks:

Gerontology (9) + Electives (15)
Gerontology (9) + Long-Term Care Administration Track (12) + Elective (3)

Most students who successfully complete the Long-Term Care Administration track will be eligible to sit for their specific state's administrator licensing exam.

Required Courses (9)

GERON 215 - Introduction to Gerontology **Credits:** 3
GERON 575 - Introduction to Diversity in the Aging Experience **Credits:** 3
GERON 577 - Introduction to Policy and Advocacy in Gerontology **Credits:** 3

Electives (15 credit hours)

Students will choose the necessary credit hours of electives from this list based upon their professional goals. Elective courses not listed here may be approved on a case-by-case basis by the gerontology advisor and/or program director.

See department list: **Gerontology Secondary Major Electives**

Long-Term Care Administration track (12 credit hours)

This track covers required content from the Core of Knowledge for Nursing Home Administrators as defined in K.A.R. 28-38-29. Required courses include:

ACCTG 231 - Introduction to Managerial Accounting **Credits:** 3
GERON 610 - Seminar in Long-Term Care Administration **Credits:** 3
GERON 615 - Long-Term Care Administration Internship **Credits:** 1-9
MANGT 220 - Principles of Management **Credits:** 3

*Course substitutions will be considered on a case-by-case basis.
Electives (3 credits) **Credits / Units:** 3
*This covers required content from the Core of Knowledge for Nursing Home Administrators as defined in K.A.R. 28-38-29.

Total Minimum Hours Required for Graduation: 24

Undergraduate Certificate

Child Welfare Undergraduate Certificate

The Child Welfare Certificate consists of 15 credit hours and is designed to prepare students to be an effective child advocate and enhance the lives of children. The Child Welfare Certificate is available to all undergraduate students and as a post-baccalaureate certificate. This certificate complements majors including those interested in education, healthcare, social work, human development and family science, integrative human sciences, psychology, criminology, and many more.

Required Courses (6 credit hours)

HDFS 110 - Introduction to Human Development **Credits:** 3
SOCWK 370 - Child Welfare **Credits:** 3

Electives (9 credit hours)

Choose 9 hours from electives options.

ADC 575 - Addiction and Family **Credits:** 3
CNRES 529 - Trauma and Traumatic Stress **Credits:** 3
CNRES 533 - Prevention & Intervention of Violence **Credits:** 3
CRIM 460 - Youth and Crime **Credits:** 3
CRIM 470 - The Criminal Justice System and Family Violence **Credits:** 3
ECED 310 - Early Childhood **Credits:** 3
HDFS 250 - Interpersonal and Family Relationships **Credits:** 3
HDFS 301 - Interpersonal Skills for Helping Professionals **Credits:** 3
HDFS 305 - Family Violence Across the Life Course **Credits:** 3
HDFS 506 - Adolescent and Emerging Adult Development **Credits:** 3
PSYCH 280 - Psychology of Childhood and Adolescence **Credits:** 3
SOCWK 315 - Human Behavior in the Social Environment I **Credits:** 3
SOCWK 350 - Social Work with Criminal Offenders and Victims **Credits:** 3

Total hours required: 15

Conflict Resolution Undergraduate Certificate

The Undergraduate Certificate in Conflict Resolution offers students the fundamentals of conflict resolution and practice. It is intended to meet the needs of those individuals who seek introductory training in conflict resolution.

To be awarded the certificate, the student (a) must not be on probation, (b) must have a cumulative GPA of 2.0 or higher in coursework applied to the certificate, (c) must meet all the requirements of the student's certificate program, and (d) must be enrolled during the semester in which the certificate requirements are completed.

General requirements (12 credit hours)

Required (3 credit hours)

CNRES 531 - Interpersonal Conflict Resolution **Credits:** 3

Electives (9 credit hours)

Choose 3 of the following 8 courses

CNRES 528 - Alternative Dispute Resolution Approaches **Credits:** 3
CNRES 529 - Trauma and Traumatic Stress **Credits:** 3
CNRES 532 - Conflict Resolution across Cultures & Contexts **Credits:** 3
CNRES 533 - Prevention & Intervention of Violence **Credits:** 3
CNRES 534 - Conflict in Organizations **Credits:** 3
CNRES 535 - Divorce and Child Custody Mediation **Credits:** 3
CNRES 536 - Conflict and Trauma in International Settings **Credits:** 3
CNRES 537 - Elder and Family Decision Making **Credits:** 3

Early Childhood Consultation Undergraduate Certificate

The Certificate in Early Childhood Consultation is offered through the School of Human Sciences and provides an introductory understanding of the unique characteristics in early childhood environments and how to support early childhood professionals through applied coaching. This certificate can be completed by degree seeking students at Kansas State University, obtained as a credential on its own (free-standing), as a non-degree, certificate seeking student or earned post-baccalaureate. This program is offered online only.

Admission Requirements:

Applicants for the Certificate in Early Childhood Consultation certificate must contact the Director to receive approval for admission. Prior permission is required from the program to take or transfer a class from another institution.

Graduation Requirement:

Students must complete individual program courses with a minimum of a "C" or greater.

Course Requirements (12 credit hours):

ECED 310 - Early Childhood **Credits:** 3
ECED 450 - Environments in Early Childhood **Credits:** 3
ECED 542 - Foundations of Coaching Adults **Credits:** 3
HDFS 301 - Interpersonal Skills for Helping Professionals **Credits:** 3

Total Hours Required for Graduation: 12

Philanthropy Undergraduate Certificate

The undergraduate certificate in philanthropy will enhance students' knowledge of the principles and practice of philanthropy. It is intended to meet the needs of individuals who will work for nonprofit organizations that depend on philanthropy, the giving of "time, talent, and treasure," to improve the well-being of others.

Admission Requirements

To be awarded the certificate, the student (a) must not be on probation, (b) must have a cumulative GPA of 2.0 or higher in coursework applied to the certificate, (c) must meet all the requirements of the student's certificate program, and (d) must be enrolled during the semester in which the certificate requirements are completed.

Course Requirements (12 credit hours)

HDFS 201 - Introduction to Philanthropy **Credits:** 3
HDFS 301 - Interpersonal Skills for Helping Professionals **Credits:** 3
HDFS 501 - Philanthropy in Context **Credits:** 3
PFP 105 - Introduction to Personal Financial Planning **Credits:** 3
OR
LEAD 420 - Theories of Nonprofit Leadership **Credits:** 3

Total Hours Required: 12

Other Program Choices

Early Childhood Education (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ECED 210 - Introduction to Early Childhood Education	3		
HDFS 110 - Introduction to Human Development	3		
HHS 100 - Well-being 1: You and Community	1		
English Requirement	3	**KSC 010**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 16			
Semester 2			
ECED 310 - Early Childhood	3		
ECED 313 - Pre-Professional Experiences in Early Childhood Unified	1		
Communication Requirement	3	**KSC 020**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Second Year			
Semester 1			

ECED 420 - Interaction Techniques with Young Children	3	
English Requirement	3	**KSC 010**
Natural and Physical Sciences Requirement	4	**KSC 040**
Arts and Humanities Requirement	3	**KSC 060**
Free Electives {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
ECED 428 - Exceptional Development in Early Childhood	3	
ECED 566 - Emergent Literacy	3	
HDFS 250 - Interpersonal and Family Relationships	3	
HHS 200 - Well-being 2: Mind and Body	1	
Professional Elective	3	
Unrestricted Elective	3	
Total Credits: 16		
Third Year		
Semester 1		
ECED 530 - Teaching & Learning in Early Childhood Education	3	
ECED 531 - Developmental Curriculum in Early Childhood Education	3	
ECED 720 - Challenging Behaviors in Early Childhood	3	
Professional Elective	3	
Professional Elective	3	
Total Credits: 15		

Semester 2			
ECED 544 - Reflective Practice: Preschoolers and Kindergartners	3		
ECED 554 - Early Childhood Practicum II: Preschoolers	1		
ECED 555 - Early Childhood Practicum III: Kindergartners	1		
ECED 597 - Home, School, and Community Partnerships	3		
EDSP 777 - Social Emotional Learning and Behavior Management Strategies	3		
Professional Elective	3		
Total Credits: 14			
Fourth Year			
Semester 1			
ECED 543 - Reflective Practice: Infants and Toddlers	3		
ECED 553 - Early Childhood Practicum I: Infants and Toddlers	1		
ECED 556 - Early Childhood Practicum 4: Home Visiting	1		
ECED 797 - Home Visiting Programs for Young Children and Families	3		
HHS 300 - Well-being 3: Money and Meaning	1		
Professional Elective	3		
Unrestricted Elective	3		
Total Credits: 15			
Semester 2			
ECED 598 - Student Teaching in Early Childhood Unified	9		
ECED 728 - Assessment of Young Children	3		
Total Credits: 12			

Total Program Hours: 120		

Family and Consumer Sciences Education - Teacher Certification (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
EDCI 110 - Foundations of Education	3	
HHS 100 - Well-being 1: You and Community	1	
IHS 110 - Introduction to Integrative Human Sciences	1	
English Requirement	3	**KSC 010**
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**
Natural and Physical Sciences Requirement	4	**KSC 040**
Total Credits: 15		
Semester 2		
FNDH 132 - Basic Nutrition	3	
HDFS 110 - Introduction to Human Development	3	
HHS 200 - Well-being 2: Mind and Body	1	
English Requirement	3	**KSC 010**
Communication Requirement	3	**KSC 020**
Social and Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Second Year		
Semester 1		

ECED 310 - Early Childhood	3	
EDCI 200 - Teaching as a Career	1	
EDCI 230 - Early Field Experience	1	
FASH 245 - Fashion Industry	3	
IDSN 210 - Design and Behavior in the Interior Environment	3	
Arts and Humanities Requirement	3	**KSC 060**
Unrestricted Elective	1	
Total Credis: 15		
Semester 2		
EDCI 405 - Middle-Level Education	2	
HDFS 250 - Interpersonal and Family Relationships	3	
IDFS 350 - Our Sustainable World	3	
Social and Behavioral Sciences Requirement	3	**KSC 050**
Arts and Humanities Requirement	3	**KSC 060**
Free Elective (Institutionally Designated Area)	3	**KSC 070**
Total Credits: 17		
Third Year		
Semester 1		
EDSEC 620 - Principles and Philosophy of Career and Technical Education	2-3	
FNDH 252 - Personal Wellness	3	
FNDH 313 - Science of Food	4	
HDFS 302 - Introduction to Human Sexuality	3	
HHS 300 - Well-being 3: Money and Meaning	1	

PFP 105 - Introduction to Personal Financial Planning	3	
Total Credits: 16		
Semester 2		
EDCI 315 - Educational Psychology	3	
EDCI 318 - Educational Technology for Teaching and Learning	1	
EDCI 320 - Core Teaching Skills and Lab	3	
EDSP 323 - Exceptional Students in the Secondary School	2	
IHS 310 - Foundations of Integrative Human Sciences	3	
Free Elective (Institutionally Designated Area)	3	**KSC 070**
Total Credits: 15		
Fourth Year		
Semester 1		
CNRES 300 - Introduction to Conflict Resolution	3	
EDSEC 455 - Teaching in a Multicultural Society	1	
EDSEC 477 - Content Area Literacies and Diverse Learners	2	
EDSEC 525 - Interpersonal Relations in the Schools	1	
IHS 420 - Family and Consumer Science Methods for Secondary and Middle Schools	3	
IHS 425 - Family and Consumer Science Education Practicum	2	
Additional FCSED Content (consult advisor)	2	
Total Credits: 14		
Semester 2		
EDSEC 586 - Teaching Internship in Secondary Schools	1-12	

Total Credits: 12			
Total Program Hours: 120			

Human Development and Family Science (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
HDFS 110 - Introduction to Human Development	3		
HHS 100 - Well-being 1: You and Community	1		
English Requirement	3	**KSC 010**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 13			
Semester 2			
HDFS 250 - Interpersonal and Family Relationships	3		
English Requirement	3	**KSC 010**	
Natural & Physical Sciences Requirement	4	**KSC 040**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Unrestricted Elective	3		
Total Credits: 16			
Second Year			
Semester 1			
ECED 310 - Early Childhood	3		

HDFS 301 - Interpersonal Skills for Helping Professionals	3	
Communication Requirement	3	**KSC 020**
Arts & Humanities Requirement	3	**KSC 060**
Minor, Certificate, or Concentration Course	3	
Total Credits: 15		
Semester 2		
HDFS 302 - Introduction to Human Sexuality	3	
HHS 200 - Well-being 2: Mind and Body	1	
PFP 105 - Introduction to Personal Financial Planning **OR**	3	
PFP 315 - Love and Money	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Third Year		
Semester 1		
HDFS 305 - Family Violence Across the Life Course **OR**	3	
CNRES 530 - Coping with Life Crises	3	
HDFS 375 - Introduction to Research Methods in Human Development and Family Science	3	
HDFS 506 - Adolescent and Emerging Adult Development	3	
Minor, Certificate, or Concentration Course	3	
Unrestricted Electives	3	

Total Credits: 15			
Semester 2			
HDFS 510 - Midlife to Late Adult Development	3		
HDFS 525 - Community Mental and Relationship Health	3		
HHS 300 - Well-being 3: Money and Meaning	1		
Minor, Certificate, or Concentration Course	3		
Minor, Certificate, or Concentration Course	3		
Unrestricted Elective	3		
Total Credits: 16			
Fourth Year			
Semester 1			
HDFS 550 - Application of Theories in HDFS	3		
HDFS 570 - Program Development and Implementation	3		
Minor, Certificate, or Concentration Course	3		
Unrestricted Elective	3		
Unrestricted Elective	3		
Total Credits: 15			
Semester 2			
HDFS 460 - Families and Social Policy	3		
HDFS 552 - Social Justice in a Family Context	3		
Minor, Certificate, or Concentration Course	3		
Unrestricted Elective	3		

Unrestricted Elective	2		
Total Credits: 14			
Total Program Hours: 120			

Integrative Human Sciences (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
HDFS 110 - Introduction to Human Development	3		
HHS 100 - Well-being 1: You and Community	1		
IHS 110 - Introduction to Integrative Human Sciences	1		
English Requirement	3	**KSC 010**	
Natural & Physical Sciences Requirement	4	**KSC 040**	
MATH 160 - Introduction to Contemporary Mathematics	3	**KSC 030**	
Total Credits: 15			
Semester 2			
HHS 200 - Well-being 2: Mind and Body	1		
Communication Requirement	3	**KSC 020**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Arts and Humanities Requirement	3	**KSC 060**	
Area of Concentration Course	3		
Area of Concentration Course	3		
Total Credits: 16			

Second Year			
Semester 1			
HDFS 250 - Interpersonal and Family Relationships	3		
English Requirement	3	**KSC 010**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Arts and Humanities Requirement	3	**KSC 060**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Semester 2			
IHS 310 - Foundations of Integrative Human Sciences	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Area of Concentration Course	3		
Area of Concentration Course	3		
Unrestricted Elective	3		
Total Credits: 15			
Third Year			
Semester 1			
CNRES 300 - Introduction to Conflict Resolution **OR**	3		
CNRES 531 - Interpersonal Conflict Resolution **OR**	3		
CNRES 532 - Conflict Resolution across Cultures & Contexts **OR**	3		
CNRES 534 - Conflict in Organizations	3		
Area of Concentration Course	3		
Area of Concentration Course	3		

Area of Concentration Course	3		
Unrestricted Elective	3		
Total Credits: 15			
Semester 2			
HHS 300 - Well-being 3: Money and Meaning	1		
Area of Concentration Course	3		
Area of Concentration Course	3		
Area of Concentration Course	3		
Area of Concentration Course	3		
Area of Concentration Course	3		
Total Credits: 16			
Fourth Year			
Semester 1			
IHS 399 - Integrative Human Sciences Applied Learning Orientation	1		
Area of Concentration Course	3		
Area of Concentration Course	3		
Area of Concentration Course	3		
Area of Concentration Course	3		
Total Credits: 13			
Semester 2			
IHS 400 - IHS Applied Learning Experience	1-3		
Area of Concentration Course	3		

Area of Concentration Course	3		
Area of Concentration Course	3		
Area of Concentration Course	3		
Total Credits: 15			
Total Program Hours: 120			

College of Technology and Aviation

Alysia Starkey, CEO and Dean

K-State University Salina
Aerospace and Technology Campus
2310 Centennial Road
Salina, KS 67401–8196

785-289-2650
salinaadmissions@k-state.edu

https://www.salina.k-state.edu/

Accreditation and Certification

The bachelor's degree in engineering technology -- electronic and computer engineering technology option and mechanical engineering technology option are accredited by the Engineering Technology Accreditation Commission of ABET.

The aircraft maintenance program is certified as an "Aviation Maintenance Technician School No. BZ9T052R" by the Federal Aviation Administration. The professional pilot program is certified as an approved "Pilot School Number KKCS017" by the Federal Aviation Administration. The baccalaureate degree program in professional pilot is accredited by the Aviation Accreditation Board International, 3410 Skyway Drive, Auburn, AL 36830, 334-844-2431.

Kansas State University is fully accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools; 30 N. LaSalle St., Suite 2400, Chicago, IL 60602, 1-800-621-7440. Credit earned at K-State is transferable to other institutions.

Prerequisite courses

Before attempting a course originating in the College of Technology and Aviation, a grade of C or better must be earned in the prerequisite courses.

Minors and Secondary Majors

Students at K-State are eligible for any of the minors and secondary major offered by Kansas State University. Students completing all requirements for a minor and/or secondary major will receive official recognition on their academic records.

The Salina Campus offers a minor in applied business, aviation safety and uncrewed aircraft systems (UAS), which is available to students seeking or having earned a Kansas State bachelor or graduate degree.

Reserve Officer Training Corps (ROTC)

Students at K-State Salina Campus may participate in Air Force ROTC or Army ROTC to become officers in the U.S. Air Force or U.S. Army.

Air Force ROTC program
e-mail: afrotc@k-state.edu

Army ROTC program
e-mail: armyrotc@k-state.edu

Academic and Student Services

Academic Advising

Kansas State University is committed to providing effective advising services to students as an essential component of their educational experience. Academic Advisors assist students with academic planning, course sequencing, review of curriculum requirements, academic policies/procedures, and major exploration.

Each student at K-State Salina is assigned an academic advisor. Students are responsible for initiating advising contact and preparing for advising sessions. Advisors can help connect students with campus resources in support of their academic and career goals.

K-State Salina Library and Academic Success Center

The https://www.salina.k-state.edu/academics/library/, located in the Technology Center, meets standards set for college libraries by the American Library Association and Engineering Technology Accreditation Commission of ABET. The library contains more than 20,000 volumes and provides access to nearly 90 online databases, as well as a collection of up-to-date technical information and reference materials (paper and electronic) covering technological subjects. The library also has computer workstations containing all software found in the college's computer labs.

Professional Education and Outreach

The Professional Education and Outreach department provides student services to support online and distance students in reaching academic success at K-State Salina. The department utilizes online and distance learning technology to deliver affordable and accessible education option to meet student needs. The department's faculty services assist instructors who develop and teach online and distance courses.

Student Life

Student Life promotes the educational experience by enhancing the opportunities, safety, and growth of the campus community. Student Life provides and supports campus services, programs, and activities in an effort to strengthen the quality of life within a supportive atmosphere. Student Life also encourages and motivates lifelong healthy choices through the college experience. Student Life encompasses the following areas: Residence Life, Recreational Services, Counseling Services, Student Governing Association, Programming Board, and student clubs/organizations.

Student Support Services

K-State Salina also has a Student Support Services program. Student Support Services is a part of TRiO, a federally funded program to help fulfill the potential of students regardless of gender, race, income level, marital status, or disabilities. SSS provides personal, academic, and professional assistance to eligible participants. SSS services include: counseling/mentoring, tutoring, advocacy, referral services, financial literacy and study skills workshops, and cultural enrichment activities. Student Support Services also has two computer lab locations on campus and assists in the facilitation of the K-State Salina Writing Center.

Writing Center

The K-State Salina Writing Center provides one-on-one tutoring services for students across disciplines, free of charge. Trained peer tutors are available to consult over writing assignments and projects for any classes. Tutors can discuss all stages of the writing process from topic development to final editing. The Writing Center's primary objective is to help students develop their college-level writing abilities. Appointments are made online in advance on this website

Other Program Choices

Applied Business and Technology - Technology Management (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Social & Behavioral Science Requirement	3	**KSC 050**	
Total Credits: 15			
Semester 2			
BUS 251 - Financial Accounting	3		

ECON 110 - Principles of Macroeconomics	3		
Social & Behavioral Science Requirement	3	**KSC 050**	
Arts & Humanities Requirement	3	**KSC 060**	
Natural & Physical Science Requirement - with Lab	4	**KSC 040**	
Total Credits: 16			
Second Year			
Semester 1			
BUS 252 - Managerial Accounting	3		
BUS 315 - Supervisory Management	3		
BUS 366 - Management with Information Technology	3		
ENGL 200 - Expository Writing II	3	**KSC 010**	
Elective	2		
Total Credits: 14			
Semester 2			
ENGL 302 - Technical Writing	3		
ECON 120 - Principles of Microeconomics	3		
Area of Concentration	9		
Total Credits: 15			
Third Year			
Semester 1			
Area of Concentration	6		
Area of Concentration - 300 level or higher	9		

Total Credits: 15			
Semester 2			
STAT 225 - Introduction to Statistics	3		
BUS 420 - Management Perspectives	3		
Area of Concentration -300 level or higher	9		
Total Credits: 15			
Fourth Year			
Semester 1			
Business Elective - 300 level or higher	9		
Area of Concentration	6		
Total Credits: 15			
Semester 2			
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Arts & Humanities Requirement	3	**KSC 060**	
Natural Science Elective	3		
Business Elective - 300 level or higher	3		
BUS 520 - Integrated Technology Management Capstone	3		
Total Credits: 15			
Total Program Hours: 120			

Aviation

Tysen Pina, Head

Kansas State University Salina
Aerospace and Technology Campus
2310 Centennial Road
Salina, KS 67401-8196

785-289-2650
salinaadmissions@k-state.edu

www.salina.k-state.edu

The Aviation Department offers a comprehensive range of aviation study opportunities offering bachelor degrees options, Aviation Management, Aviation Maintenance Management, Professional Aviation, Professional Pilot, and Uncrewed Aircraft Systems; as well as certificates in Airframe and Powerplant, Composite Repair, and Uncrewed Aircraft Systems, Aviation Electronics Technology, in addition to a minor in aviation safety and uncrewed aircraft systems.

Associate of Applied Science

Aviation Maintenance (AAS)

The aviation maintenance management program prepares students to take the Federal Aviation Administration's Airframe and Powerplant certification. Lab space consists of more than 11,000 square feet to gain hands-on experience working on a real aircraft.

Aviation Requirements (50 credit hours)

AVM 101 - Introduction to Aircraft Materials and Tooling Standards **Credits:** 2
AVM 102 - Aviation Regulations, Compliance and Operations **Credits:** 2
AVM 103 - Intro to Aircraft Materials and Tooling Standards Laboratory **Credits:** 1
AVM 111 - Basic Aircraft Electricity **Credits:** 4
AVM 121 - Aircraft Drawings **Credits:** 2
AVM 141 - Aircraft Science **Credits:** 3
AVM 201 - Aircraft Metallic Primary Structures **Credits:** 3
AVM 203 - Aircraft Environmental and Fire Protection Systems **Credits:** 2
AVM 204 - Aircraft Environmental and Fire Protection Systems Laboratory **Credits:** 1
AVM 205 - Aircraft Landing Gear and Fluid Power Systems **Credits:** 3
AVM 207 - Aircraft Electrical Systems **Credits:** 3
AVM 216 - Aircraft Propulsion Drive Systems **Credits:** 3
AVM 301 - Advanced Reciprocating Powerplant Technology **Credits:** 3
AVM 303 - Introduction to Aircraft Composite Structures **Credits:** 3
AVM 304 - Aircraft Fuel Management and Metering Systems **Credits:** 3
AVM 305 - Aircraft Avionics and Instrument Systems **Credits:** 3
AVM 306 - Rotary and Fixed Wing Aircraft Design and Assembly **Credits:** 3
AVM 322 - Powerplant Operation and Troubleshooting **Credits:** 3
AVM 402 - Gas Turbine Powerplant Technology **Credits:** 3

Other Requirements (12 credit hours)

COMM 106 - Public Speaking I **Credits:** 3
KSC-020
ENGL 100 - Expository Writing I **Credits:** 3
KSC-010
KSC-030
MATH 100 - College Algebra **Credits:** 3
Select between: **Credits / Units:** 3
Arts & Humanities Requirement *KSC-060* **Credits / Units:** 3
Social & Behaviroral Sciences Requirement *KSC-050* **Credits / Units:** 3

Total Hours Required: 62

Professional Pilot (AAS)

This curriculum prepares students for a dynamic career in the aviation industry. Successful completion of this degree gives a solid academic base and prepares the student for lifelong learning.
This program requires significant time and financial commitment. Flight training costs are additional, above the standard tuition, books, and supplies. Individuals wanting to enroll in this degree must meet the selective admissions requirements for any flight training provided by KSU.

Fall 1st Semester (14 Credit hours)

AVT 100 - Introduction to Aviation **Credits:** 3
MATH 100 - College Algebra **Credits:** 3
PPIL 111 - Private Pilot **Credits:** 4
PPIL 113 - Private Pilot Flight Lab **Credits:** 1
Humanities/Social Science/Business Elective **Credits:** 3

Spring 2nd Semester (16 credit hours)

AVT 242 - Aviation Meteorology **Credits:** 3
ENGL 100 - Expository Writing I **Credits:** 3
MATH 150 - Plane Trigonometry **Credits:** 3
PPIL 112 - Professional Instrument Pilot **Credits:** 3
PPIL 114 - Professional Instrument Pilot Flight Lab **Credits:** 1
PSYCH 110 - General Psychology **Credits:** 3

Fall 3rd Semester (15 credit hours)

AVT 386 - Aerodynamics **Credits:** 3
COMM 106 - Public Speaking I **Credits:** 3
PHYS 113 - General Physics I **Credits:** 4
PPIL 211 - Professional Commercial Pilot **Credits:** 3
PPIL 212 - Professional Commercial Pilot Flight Lab I **Credits:** 2

Spring 4th Semester (15 credit hours)

AVT 340 - Human Factors in Aviation **Credits:** 3
PPIL 210 - Aviation Safety **Credits:** 3
PPIL 213 - Professional Commercial Pilot Flight Lab II **Credits:** 2
PPIL 262 - Multi-Engine Ground School **Credits:** 1
PPIL 263 - Multi-Engine Flight Lab **Credits:** 1
Aviation Elective **Credits:** 2
Economics Elective **Credits:** 3

Total credit hours required: 60

Bachelor of Science

Aeronautical Technology - Aviation Maintenance Management (BS)

You'll be responsible for maintaining and troubleshooting on a G1000 simulator, as well as building, troubleshooting and inspecting the wiring harnesses. You'll also have the opportunity to build, repair and modify aircraft structures and systems. Our program provides you the ability to learn on actual aircraft, with a fleet of more than 10 operable aircraft ranging from a Bell helicopter to a cabin-class, turbine-powered King Air 90 available in the lab. In addition to the bachelor's degree, our avionics electronics technology certificate is National Center for Aircraft Technician Training, or NCATT, certified and prepares you to pass the NCATT Aviation Electronics Technician certification.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (25 credit hours)

BUS/COT Requirement: (12 credit hours)

BUS 315 - Supervisory Management **Credits:** 3
BUS 366 - Management with Information Technology **Credits:** 3
BUS 420 - Management Perspectives **Credits:** 3
COT 480 - Professional Conduct, Ethics, and Analysis **Credits:** 3

English Requirements: (3 credit hours)

ENGL 302 - Technical Writing **Credits:** 3

Math Requirement: (3 credit hours)

If not met through K-State Core requirements, MATH 100 is required.

MATH 100 - College Algebra **Credits:** 3
KSC-030
MATH 150 - Plane Trigonometry **Credits:** 3

Physics Requirement: (4 credit hours)

PHYS 113 - General Physics I **Credits:** 4

Statistics Requirement: (3 credit hours)

STAT 225 - Introduction to Statistics **Credits:** 3

Professional Studies: (58 credit hours)

Professional Studies

AVM 101 - Introduction to Aircraft Materials and Tooling Standards **Credits:** 2
AVM 102 - Aviation Regulations, Compliance and Operations **Credits:** 2
AVM 103 - Intro to Aircraft Materials and Tooling Standards Laboratory **Credits:** 1
AVM 111 - Basic Aircraft Electricity **Credits:** 4
AVM 121 - Aircraft Drawings **Credits:** 2
AVM 201 - Aircraft Metallic Primary Structures **Credits:** 3
AVM 203 - Aircraft Environmental and Fire Protection Systems **Credits:** 2
AVM 204 - Aircraft Environmental and Fire Protection Systems Laboratory **Credits:** 1
AVM 205 - Aircraft Landing Gear and Fluid Power Systems **Credits:** 3
AVM 207 - Aircraft Electrical Systems **Credits:** 3
AVM 216 - Aircraft Propulsion Drive Systems **Credits:** 3
AVM 301 - Advanced Reciprocating Powerplant Technology **Credits:** 3
AVM 303 - Introduction to Aircraft Composite Structures **Credits:** 3
AVM 304 - Aircraft Fuel Management and Metering Systems **Credits:** 3
AVM 305 - Aircraft Avionics and Instrument Systems **Credits:** 3
AVM 306 - Rotary and Fixed Wing Aircraft Design and Assembly **Credits:** 3
AVM 322 - Powerplant Operation and Troubleshooting **Credits:** 3
AVM 402 - Gas Turbine Powerplant Technology **Credits:** 3
AVT 100 - Introduction to Aviation **Credits:** 3
AVT 340 - Human Factors in Aviation **Credits:** 3
AVT 482 - Aviation Ethics and Leadership **Credits:** 3

Restricted Electives Requirement: (3 credit hours)

Choose from the list below:

BUS 252 - Managerial Accounting **Credits:** 3

BUS 390 - Foundations of Business Law **Credits:** 3
BUS 400 - Marketing Techniques and Applications **Credits:** 3
BUS 530 - Practices of Industrial and Labor Relations **Credits:** 3

Aviation Elective: (2 credit hours)

Aviation Elective **Credits:** 2

Total Hours Required for Graduation: 120

Aeronautical Technology - Aviation Management (BS)

In the Bachelor's in aviation management degree option, students will learn from instructors who have real-world, professional experience and success in the working for airports across the country. The instructors in this degree will provide unique perspectives that allow students an insight in to the busy world of operating an airport. Classes will integrate real-world airport challenges and present students with the opportunity to not only learn about proven techniques, but also test their theories in helping to solve industry challenges.

Students have the option of learning in-person or online

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (16 credit hours)

English Requirement: (3 credit hours)

ENGL 302 - Technical Writing **Credits:** 3

Math Requirement: (3 credit hours)

If not met through K-State Core requirements, MATH 100 is required.

MATH 100 - College Algebra **Credits:** 3
KSC-030
MATH 150 - Plane Trigonometry **Credits:** 3

Physics Requirement: (4 credit hours)

PHYS 113 - General Physics I **Credits:** 4

Psychology Requirement: (3 credit hours)

PSYCH 110 - General Psychology **Credits:** 3

Statistics Requirement: (3 credit hours)

STAT 225 - Introduction to Statistics **Credits:** 3

Professional Studies

Professional Studies: (70 credit hours)

AVM 102 - Aviation Regulations, Compliance and Operations **Credits:** 2
AVT 100 - Introduction to Aviation **Credits:** 3
AVT 242 - Aviation Meteorology **Credits:** 3
AVT 250 - Safety and Security of Airport Ground Operations **Credits:** 3
AVT 340 - Human Factors in Aviation **Credits:** 3
AVT 361 - Airport Environmental Studies **Credits:** 3
AVT 380 - Airport Operations **Credits:** 3
AVT 440 - Air Carrier Operations **Credits:** 3
AVT 445 - Aviation Law **Credits:** 3
AVT 450 - Aviation Safety Management **Credits:** 3
AVT 461 - Airport Management **Credits:** 3
AVT 480 - Airport Global Networks **Credits:** 3
AVT 482 - Aviation Ethics and Leadership **Credits:** 3
BUS 110 - Introduction to Business **Credits:** 3
BUS 251 - Financial Accounting **Credits:** 3
BUS 315 - Supervisory Management **Credits:** 3
BUS 366 - Management with Information Technology **Credits:** 3
BUS 400 - Marketing Techniques and Applications **Credits:** 3
BUS 410 - Managerial and Project Economics **Credits:** 3
BUS 420 - Management Perspectives **Credits:** 3
BUS 531 - Strategic Human Resource Management **Credits:** 3
COT 480 - Professional Conduct, Ethics, and Analysis **Credits:** 3
PAV 497 - Senior Capstone **Credits:** 3
Business Elective **Credits:** 2

Total Hours Required for Graduation: 120

Aeronautical Technology - Professional Aviation (BS)

The Professional Aviation option, Bachelor of Science in Aeronautical Technology provides students with knowledge and skills designed to enhance their employability and upward mobility in the aviation industry. This degree option has been specifically designed as a "degree completion program," allowing undergraduate students who have completed an associate's degree or certificate, or have a substantial number of completed courses in aviation, to continue their education and receive a bachelor of science degree. Courses can be taken online or face-to-face.

Graduates are prepared for a variety of aviation careers including supervisory and management roles in many aviation settings.

The Bachelor of Science in Aeronautical Technology, Professional Aviation option allows students transferring from two-year institutions to apply up to 35 credit-hours of their technical aviation specialty, as well as general education courses, for a total of 60 credit-hours transferrable to Kansas State.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements (31 credit hours)

If not met through K-State Core requirements, MATH 100 is required.

BUS 315 - Supervisory Management **Credits:** 3
BUS 400 - Marketing Techniques and Applications **Credits:** 3
BUS 410 - Managerial and Project Economics **Credits:** 3
BUS 420 - Management Perspectives **Credits:** 3
BUS 530 - Practices of Industrial and Labor Relations **Credits:** 3
COT 480 - Professional Conduct, Ethics, and Analysis **Credits:** 3
COT 405 - Methods of Problem Solving for Integrated Professional Studies **Credits:** 3
ENGL 302 - Technical Writing **Credits:** 3
MATH 100 - College Algebra **Credits:** 3
KSC-030
MATH 150 - Plane Trigonometry **Credits:** 3
PHYS 113 - General Physics I **Credits:** 4

Professional Studies (55 credit hours)

Basic Aviation **Credits:** 35
This block of courses includes course work normally taken during the first two years of an undergraduate program in aviation. Courses accepted for transfer to K-State must be academic college-level courses from an accredited institution.

AVT 440 - Air Carrier Operations **Credits:** 3
AVT 445 - Aviation Law **Credits:** 3

AVT 450 - Aviation Safety Management **Credits:** 3
AVT 497 - Senior Capstone **Credits:** 3
Aviation Electives **Credits:** 8 (at least 5 credits must be 300+level)

Total Hours Required for Graduation: 120

Aeronautical Technology - Professional Pilot (BS)

K-State Aerospace and Technology Campus's professional pilot program is the perfect place to begin your aviation journey. Boasting a premium fleet of 30+ aircraft and flight training devices and a large and active regional airport just steps away from the classroom, your education and experience will surpass the highest of expectations.

Our professional pilot curriculum does more than train pilots – students receive training above and beyond the Federal Aviation Administration's (FAA) minimum requirements, creating professionals that are confident to fly in all conditions, troubleshoot and solve problems, make ethical decisions, and exceed the expectations of the aviation industry. With the degree option's longstanding history at the university, K-State Aerospace and Technology Campus has turned people passionate about aviation into the best pilots in the skies.

K-State Salina's professional pilot degree option is FAA part 141 approved, allowing students to complete commercial pilot training in as little as 190 hours instead of 250 hours, for a bachelor's degree. The training also allows students to qualify for a Restricted Airline Transport Pilot Certificate (R-ATP) in as few as 1,000 hours with a bachelor's degree or 1250 hours with an associate degree. (Students are required to meet the minimum credits for R-ATP approved courses. Earning a degree does not equate to an automatic R-ATP.) The R-ATP can be beneficial to students by providing them with the ability to fly for the airlines earlier. Training and education are provided by highly qualified faculty and staff, with years of both industry and education experience.

This program requires significant time and financial commitment. Flight training costs are additional, above the standard tuition, books, and supplies.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Additional Requirements: 22 credit hours

If not met through K-State Core requirements, MATH 100 is required.

BUS 315 - Supervisory Management **Credits:** 3
BUS 400 - Marketing Techniques and Applications **Credits:** 3
COT 480 - Professional Conduct, Ethics, and Analysis **Credits:** 3
ENGL 302 - Technical Writing **Credits:** 3

MATH 100 - College Algebra **Credits:** 3

KSC-030

MATH 150 - Plane Trigonometry **Credits:** 3

PHYS 113 - General Physics I **Credits:** 4

STAT 225 - Introduction to Statistics **Credits:** 3

Professional Pilot Requirements: 55 credit hours

AVT 100 - Introduction to Aviation **Credits:** 3

PPIL 111 - Private Pilot **Credits:** 4

PPIL 112 - Professional Instrument Pilot **Credits:** 3

PPIL 113 - Private Pilot Flight Lab **Credits:** 1

PPIL 114 - Professional Instrument Pilot Flight Lab **Credits:** 1

PPIL 210 - Aviation Safety **Credits:** 3

PPIL 211 - Professional Commercial Pilot **Credits:** 3

PPIL 212 - Professional Commercial Pilot Flight Lab I **Credits:** 2

PPIL 213 - Professional Commercial Pilot Flight Lab II **Credits:** 2

AVT 242 - Aviation Meteorology **Credits:** 3

PPIL 262 - Multi-Engine Ground School **Credits:** 1

PPIL 263 - Multi-Engine Flight Lab **Credits:** 1

OR

PPIL 314 - Certified Flight Instructor Flight Lab **Credits:** 2

PPIL 310 - Fundamentals of Instruction/Advanced Ground Instructor Ground School **Credits:** 3

PPIL 311 - Certificated Flight Instructor-Airplane Ground School **Credits:** 3

PPIL 325 - Advanced Aircraft Systems **Credits:** 3

AVT 340 - Human Factors in Aviation **Credits:** 3

AVT 386 - Aerodynamics **Credits:** 3

PPIL 387 - Crew Resource Management I **Credits:** 3

AVT 440 - Air Carrier Operations **Credits:** 3

AVT 445 - Aviation Law **Credits:** 3

AVT 497 - Senior Capstone **Credits:** 3

Aviation Electives: 9-10 credit hours

*At least 4 credits of aviation electives must be upper division courses, 300 and above. Students wanting reduced ATP need 12 approved aviation elective credits.

AVT 240 - Introduction to Air Traffic Control **Credits:** 3

AVT 250 - Safety and Security of Airport Ground Operations **Credits:** 3

AVT 360 - Airport Law **Credits:** 3

AVT 361 - Airport Environmental Studies **Credits:** 3

AVT 420 - Aviation Accident Investigation **Credits:** 3

AVT 448 - Aviation Legislation **Credits:** 3

AVT 450 - Aviation Safety Management **Credits:** 3

AVT 451 - System Safety **Credits:** 3

PPIL 196 - VFR Pilot Proficiency Lab **Credits:** 1

PPIL 197 - IFR Pilot Proficiency Lab **Credits:** 1

PPIL 215 - Mountain Flying **Credits:** 1

PPIL 216 - Altitude Chamber **Credits:** 1
PPIL 221 - Preventive Maintenance **Credits:** 2
PPIL 290 - Multi-Engine Crew Coordination **Credits:** 1
PPIL 295 - Tailwheel Transition **Credits:** 1
PPIL 296 - Complex/High Performance Transition **Credits:** 1
PPIL 314 - Certified Flight Instructor Flight Lab **Credits:** 2
PPIL 379 - Turbine Transition **Credits:** 3
PPIL 385 - Airline Transport Pilot Rating **Credits:** 2
PPIL 396 - Introduction to Upset Training and Recovery **Credits:** 1
PPIL 416 - Crew Resource Management II **Credits:** 3
PPIL 482 - Certified Instrument Flight Instructor Ground School **Credits:** 1
PPIL 483 - Certified Instrument Flight Instructor Lab **Credits:** 1
PPIL 492 - Certified Multi-Engine Flight Instructor Ground School **Credits:** 1
PPIL 493 - Certified Multi-Engine Flight Instructor Lab **Credits:** 1

Total Hours Required for Graduation: 120

Aeronautical Technology - Uncrewed Aircraft Systems (BS)

Aeronautical Technology - Uncrewed Aircraft Systems

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements (13 Credit Hours)

BUS Requirement: (3 credit hours)

BUS 315 - Supervisory Management **Credits:** 3

ENGL Requirement: (3 Credit Hours)

ENGL 302 - Technical Writing **Credits:** 3

MATH Requirement: (3 credit hours)

If not met through K-State Core requirements, MATH 100 is required.

MATH 100 - College Algebra **Credits:** 3
KSC-030
MATH 150 - Plane Trigonometry **Credits:** 3

PHYS Requirement (4 Credit Hours)

PHYS 113 - General Physics I **Credits:** 4

Program

Professional Studies: (73 credit hours)

AAM 472 - Large Fixed-Wing Operations Flight Lab **Credits:** 2
AVT 100 - Introduction to Aviation **Credits:** 3
AVT 317 - Composites I **Credits:** 3
AVT 340 - Human Factors in Aviation **Credits:** 3
AVT 450 - Aviation Safety Management **Credits:** 3
UAS 114 - Remote Pilot Certification for UAS **Credits:** 2
UAS 115 - Introduction to Multi-Rotor Flight Lab **Credits:** 1
UAS 270 - Introduction to UAS **Credits:** 3
UAS 272 - UAS Safety Fundamentals **Credits:** 3
UAS 374 - Processing Remotely Sensed Data **Credits:** 3
UAS 280 - Multi-Rotor Construction Lab **Credits:** 2
UAS 300 - UAS Powerplant Fundamentals **Credits:** 3
UAS 312 - UAS Flight Instructor Ground School **Credits:** 3
UAS 314 - Multi-rotor Instructor Flight Lab **Credits:** 1
UAS 357 - Introduction to UAS Fixed-Wing Flight Lab **Credits:** 2
UAS 367 - Introduction to UAS Automated Fixed-Wing Flight Lab **Credits:** 3
UAS 387 - UAS Safety Applications **Credits:** 2
UAS 465 - Fixed-Wing Construction Lab and Autopilot Integration **Credits:** 3
UAS 471 - Advanced Fixed-Wing Operations Flight Lab **Credits:** 2
UAS 480 - UAS Senior Design Project I **Credits:** 1
UAS 481 - UAS Senior Design Project II **Credits:** 2
Approved Technical Electives **Credits:** 20
Aviation/Electronics/Computer/Internship **Credits:** 3 (3 credit hours must be 300+level)

Approved Technical Electives and Focus Areas

Composites Repair Focus Area

AVT 400 - Composites II **Credits:** 3
AVT 417 - Composites III **Credits:** 3
COT 495 - Advanced Industrial Internship **Credits:** 0-6
PAV 497 - Senior Capstone **Credits:** 3

UAS Data Analytics Certificate

UAS 475 - Data Acquisition and Post-processing **Credits:** 3
UAS 477 - Fundamentals of Thermography **Credits:** 3
UAS 478 - Fundamentals of LIDAR **Credits:** 3

Professional Pilot Focus Area

PPIL 111 - Private Pilot **Credits:** 4
PPIL 112 - Professional Instrument Pilot **Credits:** 3
PPIL 113 - Private Pilot Flight Lab **Credits:** 1
PPIL 114 - Professional Instrument Pilot Flight Lab **Credits:** 1
PPIL 211 - Professional Commercial Pilot **Credits:** 3
PPIL 212 - Professional Commercial Pilot Flight Lab I **Credits:** 2
PPIL 213 - Professional Commercial Pilot Flight Lab II **Credits:** 2

Aviation/Electronics/Computer/Internship Elective (3 credit hours)

AVM 300 - AVM 799
AVT 300 - AVT 799
CIS 300 - CIS 799
CMST 300- CMST 799
COT 495 Internship
ECET 300 - ECET 799

Total Hours Required for Graduation: 120

Minor

Aviation Safety Minor

The Aviation Safety minor is designed to provide students with a knowledge of practices and procedures used in establishing and maintaining an effective safety program and to promote a safety culture. Students completing all requirements for the Aviation Safety minor will receive official recognition in their academic records.

The Aviation Safety minor is available to students seeking and having earned any K-State bachelor or graduate degree. Students must have a minimum of a 2.5 K-State GPA to qualify for entry into the minor program. Fifteen credit hours of designated course work with a grade of C or better for these courses are needed to complete the minor.

Requirements for minor (15 credit hours)

Required courses (6 credit hours)

AVT 340 - Human Factors in Aviation **Credits:** 3
AVT 450 - Aviation Safety Management **Credits:** 3

Elective courses (9 credit hours)

AVT 250 - Safety and Security of Airport Ground Operations **Credits:** 3

AVT 420 - Aviation Accident Investigation **Credits:** 3
AVT 451 - System Safety **Credits:** 3
PPIL 387 - Crew Resource Management I **Credits:** 3

Uncrewed Aircraft Systems Minor

Minor in Uncrewed Aircraft Systems is offered Salina-Campus Based

Required Courses (12 credit hours)

Students must achieve a minimum GPA of 2.5 and a grade of "C" or better is required in all coursework.

Research Project or Internship (Minimum 2 hours; COT 495 or COT 497)

COT 495 - Advanced Industrial Internship **Credits:** 0-6
or
COT 497 - Undergraduate Research Experience **Credits:** 0-3
UAS 114 - Remote Pilot Certification for UAS **Credits:** 2
UAS 115 - Introduction to Multi-Rotor Flight Lab **Credits:** 1
UAS 270 - Introduction to UAS **Credits:** 3
UAS 272 - UAS Safety Fundamentals **Credits:** 3
UAS 374 - Processing Remotely Sensed Data **Credits:** 3

Elective Courses (6 credit hours)

AGRON 655 - Site Specific Agriculture **Credits:** 3
COT 295 - Introductory Industrial Internship **Credits:** 0-6
GEOG 508 - Geographic Information Systems I **Credits:** 4
GEOG 605 - Remote Sensing of the Environment **Credits:** 3
GEOG 705 - Thematic Remote Sensing **Credits:** 3
MC 469 - Drone Photography and Video **Credits:** 3
UAS 280 - Multi-Rotor Construction Lab **Credits:** 2
UAS 465 - Fixed-Wing Construction Lab and Autopilot Integration **Credits:** 3
UAS 475 - Data Acquisition and Post-processing **Credits:** 3

Total hours required: 18

Undergraduate Certificate

Airframe and Powerplant Review Undergraduate Certificate

The airframe and powerplant certificate program prepares students for evaluation by the Federal Aviation Administration to earn the mechanic certificate with airframe and powerplant ratings. Students who successfully complete the program will be awarded a certificate of completion.

Upon passing the FAA written, oral, and practical exams; graduates will be certified to practice as aviation maintenance technicians. Airframe and powerplant mechanics inspect, repair, modify, and maintain aircraft for manufacturers, commercial airlines, businesses, corporations, and general aviation operators.

Certification Requirements (12 credit hours)

AVMR 220 - Aviation Maintenance Review/General **Credits:** 4
AVMR 230 - Aviation Maintenance Review/Airframe **Credits:** 4
AVMR 250 - Aviation Maintenance Review/Powerplant **Credits:** 4

Aviation Electronics Technology Undergraduate Certificate

This certificate program provides the education and practical experience needed for careers in the rapidly growing avionics segment of the aviation maintenance industry. Topic coverage includes systems found in advanced aircraft, such as glass cockpits and other advanced avionics systems. Those completing the program will find applications for these skills in aircraft design, operation, maintenance, inspection, repair, and alteration.

This certificate program meets the standards set by the National Center for Aircraft Technician Training (NCATT). It gives students the opportunity to obtain the industry's new Aviation Electronics Technician (AET) certificate.

Required Courses (15-16 credit hours)

AVM 111 - Basic Aircraft Electricity **Credits:** 4
OR
ECET 100 - Basic Electronics **Credits:** 3
AVM 305 - Aircraft Avionics and Instrument Systems **Credits:** 3
AVT 327 - Avionics Repair **Credits:** 3
AVT 429 - Avionics Maintenance **Credits:** 3
AVT 430 - Advanced Avionics Installation **Credits:** 3

Notes

*Students with an FAA Airframe (A) Certificate may test out of these courses.

**Students with an FAA Airframe (A) Certificate or an FAA Private Pilot Certification may test out of this course

Total Hours Required for Graduation: 15-16

General Aviation Maintenance Concepts Undergraduate Certificate

This accelerated certificate program prepares students to take the FAA Aviation Mechanic General Knowledge Test after completing just four foundational courses (AMP 101–104). The curriculum introduces critical areas including maintenance regulations, technical drawings, aircraft structures and materials, tools and measuring equipment, and basic electrical theory. This program delivers FAA Part 147-aligned instruction and hands-on experience, providing a fast-track entry into the aviation maintenance industry or further training toward full certification.

Required Courses: (12 Credit Hours)

AMP 101 - Introduction to Aviation Regulations and Aircraft Drawings **Credits:** 3
AMP 102 - Aviation Math and Physics **Credits:** 3
AMP 103 - Concepts of Aircraft Materials and Tooling Standards **Credits:** 3

AMP 104 - Basic Aircraft Electricity and Ground Operations **Credits:** 3

Total Hours Required: 12

Introduction to UAS Technology Undergraduate Certificate

The Introduction to UAS Technology certificate provides a basic introduction to current UAS technologies. Students completing the certificate will be able to safely handle, operate, and repair both multi-rotor and fixed-wing UAS.

Required courses: (14 credit hours)

UAS 114 - Remote Pilot Certification for UAS **Credits:** 2
UAS 115 - Introduction to Multi-Rotor Flight Lab **Credits:** 1
UAS 270 - Introduction to UAS **Credits:** 3
UAS 272 - UAS Safety Fundamentals **Credits:** 3
UAS 275 - Small UAS Maintenance I **Credits:** 3
UAS 280 - Multi-Rotor Construction Lab **Credits:** 2

Total hours required: 14

Professional Pilot Undergraduate Certificate

This curriculum provides a foundation for work in the aviation industry. Individuals wanting to enroll in this certificate must meet the selective admissions requirements for any flight training provided by KSU.

Special Requirements

Admission requirements for this certificate are the same as required for any flight training at KSU Salina. Additional information is available at https://www.salina.k-state.edu/academics/degree-options/professional-pilot.

Required Core Courses (16 credit hours)

PPIL 111 - Private Pilot **Credits:** 4
PPIL 112 - Professional Instrument Pilot **Credits:** 3
PPIL 113 - Private Pilot Flight Lab **Credits:** 1
PPIL 114 - Professional Instrument Pilot Flight Lab **Credits:** 1
PPIL 211 - Professional Commercial Pilot **Credits:** 3
PPIL 212 - Professional Commercial Pilot Flight Lab I **Credits:** 2
PPIL 213 - Professional Commercial Pilot Flight Lab II **Credits:** 2

Total credit hours: 16

UAS Data Analytics Undergraduate Certificate

The UAS Data Analytics certificates provides an in-depth understanding of UAS data collection and processing. Students completing the certificate will learn about varying UAS sensors, obtain data, and post-process the collected data into meaningful and actionable products.

Required Courses: 12 credit hours

UAS 374 - Processing Remotely Sensed Data **Credits:** 3
UAS 475 - Data Acquisition and Post-processing **Credits:** 3
UAS 477 - Fundamentals of Thermography **Credits:** 3
UAS 478 - Fundamentals of LIDAR **Credits:** 3

Total Hours Required for Graduation: 12

Other Program Choices

Aeronautical Technology - Aviation Maintenance Management (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
AVM 101 - Introduction to Aircraft Materials and Tooling Standards	2		
AVM 102 - Aviation Regulations, Compliance and Operations	2		
AVM 103 - Intro to Aircraft Materials and Tooling Standards Laboratory	1		
AVM 111 - Basic Aircraft Electricity	4		
AVM 121 - Aircraft Drawings	2		
ENGL 100 - Expository Writing I	3	**KSC 010**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 17			
Semester 2			
AVM 201 - Aircraft Metallic Primary Structures	3		
AVM 203 - Aircraft Environmental and Fire Protection Systems	2		

AVM 204 - Aircraft Environmental and Fire Protection Systems Laboratory	1		
AVM 205 - Aircraft Landing Gear and Fluid Power Systems	3		
AVM 207 - Aircraft Electrical Systems	3		
COMM 106 - Public Speaking I	3	**KSC 020**	
MATH 100 - College Algebra	3	**KSC 030**	
Total Credits: 18			
Second Year			
Semester 1			
AVM 216 - Aircraft Propulsion Drive Systems	3		
AVM 303 - Introduction to Aircraft Composite Structures	3		
AVM 305 - Aircraft Avionics and Instrument Systems	3		
AVM 306 - Rotary and Fixed Wing Aircraft Design and Assembly	3		
MATH 150 - Plane Trigonometry	3		
Total Credits: 15			
Semester 2			
AVM 301 - Advanced Reciprocating Powerplant Technology	3		
AVM 304 - Aircraft Fuel Management and Metering Systems	3		
AVM 322 - Powerplant Operation and Troubleshooting	3		
AVM 402 - Gas Turbine Powerplant Technology	3		
Social & Behavorial Sciences Requirement	3	**KSC 050**	
Total Credits: 15			

Third Year			
Semester 1			
AVT 100 - Introduction to Aviation	3		
Free Elective (Institutionally Designated Area)	3	**KSC 070**	
Free Elective (Institutionally Designated Area)	3	**KSC 070**	
PHYS 113 - General Physics I	4	**KSC 040**	
Total Credits: 13			
Semester 2			
AVT 340 - Human Factors in Aviation	3		
BUS 315 - Supervisory Management	3		
BUS 366 - Management with Information Technology	3		
COT 480 - Professional Conduct, Ethics, and Analysis	3		
ENGL 200 - Expository Writing II	3	**KSC 010**	
Total Credits: 15			
Fourth Year			
Semester 1			
AVT 482 - Aviation Ethics and Leadership	3		
ENGL 302 - Technical Writing	3		
Social & Behavioral Sciences Elective	3	**KSC 050**	
STAT 225 - Introduction to Statistics	3		
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			

Total Credits: 15			
Semester 2			
BUS 420 - Management Perspectives	3		
Aviation Elective	2		
Natural & Physical Sciences Requirement - with Lab	4		
Restricted Elective	3		
Total Credits: 12			
Restricted Elective			
Choose 3 credit Hours			
BUS 252 - Managerial Accounting	3		
BUS 390 - Foundations of Business Law	3		
BUS 400 - Marketing Techniques and Applications	3		
BUS 530 - Practices of Industrial and Labor Relations	3		
Total Program Hours: 120			

Aeronautical Technology - Aviation Management (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
AVT 100 - Introduction to Aviation	3		
Free Elective (Institutionally Designated Area)	3	**KSC 070**	
ENGL 100 - Expository Writing I	3	**KSC 010**	

MATH 100 - College Algebra	3	**KSC 030**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
AVM 102 - Aviation Regulations, Compliance and Operations	2		
AVT 242 -Aviation Meteorology	3		
AVT 250 - Safety and Security of Airport Ground Operations	3		
BUS 110 - Introduction to Business	3		
Free Elective (Institutionally Designated Area)	3	**KSC 070**	
Total Credits: 14			
Semester 3			
COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 200 -Expository Writing II	3	**KSC 010**	
Total Credits: 6			
Second Year			
Semester 1			
AVT 340 - Human Factors in Aviation	3		
AVT 380 - Airport Operations	3		
BUS 315 -Supervisory Management	3		
MATH 150 -Plane Trigonometry	3		
Total Credits: 12			

Semester 2			
AVT 361 - Airport Environmental Studies	3		
BUS 251 - Financial Accounting	3		
Social & Behavioral Science Requirement	3	**KSC 050**	
ENGL 302 - Technical Writing	3		
Total Credits: 12			
Semester 3			
STAT 225 - Introduction to Statistics	3		
Total Credits: 3			
Third Year			
Semester 1			
AVT 440 - Air Carrier Operations	3		
AVT 461 - Airport Management	3		
BUS 366 - Management with Information Technology	3		
PSYCH 110 - General Psychology	3		
Social & Behavioral Science Requirement	3	**KSC 050**	
Total Credits: 15			
Semester 2			
AVT 450 - Aviation Safety Management	3		
AVT 480 - Airport Global Networks	3		
BUS 420 - Management Perspectives	3		
Natural & Physical Sciences - with Lab	4	**KSC 040**	

Business Elective	2		
Total Credits: 15			
Semester 3			
BUS 531 - Strategic Human Resource Management	3		
PHYS 113 - General Physics I	4		
Total Credits: 7			
Fourth Year			
Semester 1			
AVT 445 - Aviation Law	3		
AVT 482 - Aviation Ethics and Leadership	3		
BUS 400 - Marketing Techniques and Applications	3		
BUS 410 -Managerial and Project Economics	3		
Total Credits: 12			
Semester 2			
COT 480 - Professional Conduct, Ethics, and Analysis	3		
PAV 497 - Senior Capstone	3		
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 9			
Total Program Hours: 120			

Aeronautical Technology - Professional Aviation (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
Social & Behavioral Science Requirement	3	**KSC 050**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
MATH 150 - Plane Trigonometry	3		
Arts & Humanities Requirement	3	**KSC 060**	
Basic Aviation Electives	9		
Total Credits: 15			
Second Year			
Semester 1			
Basic Aviation Electives	9		
ENGL 200 - Expository Writing II	3	**KSC 010**	
Free Elective (Institutionally Designated Area)	3	**KSC 070**	
Total Credits: 15			
Semester 2			
PHYS 113 - General Physics I	4	**KSC 040**	
Social and Behavioral Science Requirement	3	**KSC 050**	

Basic Aviation Electives	9	
Total Credits: 16		
Third Year		
Semester 1		
Free Elective (Institutionally Designated Area)	3	**KSC 070**
BUS 315 - Supervisory Management	3	
COT 480 - Professional Conduct, Ethics, and Analysis	3	
Natural & Physical Science - with Lab	4	
ENGL 302 - Technical Writing	3	
Total Credits: 16		
Semester 2		
Aviation Elective	3	
AVT 440 - Air Carrier Operations	3	
BUS 400 – Marketing Techniques and Applications	3	
BUS 410 - Managerial and Project Economics	3	
BUS 420 - Management Perspectives	3	
Total Credits: 15		
Fourth Year		
Semester 1		
COT 405 – Methods of Problem Solving for Integrated Professional Studies	3	
BUS 530 – Practices of Industrial and Labor Relations	3	
AVT 445 – Aviation Law	3	

Aviation Elective – 300+	5		
Total Credits: 14			
Semester 2			
Basic Aviation Electives 300+	8		
AVT 450 - Aviation Safety Management	3		
AVT 497 - Senior Capstone	3		
Total Credits: 14			
Total Program Hours: 120			

Aeronautical Technology - Professional Pilot (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
AVT 100 - Introduction to Aviation	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 12			
Semester 2			
AVT 242 - Aviation Meteorology	3		
COMM 106 - Public Speaking I	3	**KSC 020**	
MATH 150 - Plane Trigonometry	3		
PPIL 111 - Private Pilot	4		

PPIL 113 - Private Pilot Flight Lab	1	
Arts & Humanities Elective	3	**KSC 060**
Total Credits: 17		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II	3	**KSC 010**
PHYS 113 - General Physics I	4	**KSC 040**
PPIL 112 - Professional Instrument Pilot	3	
PPIL 114 - Professional Instrument Pilot Flight Lab	1	
PPIL 210 - Aviation Safety	3	
Free Elective (Institutionally Designated Area)	3	**KSC 070**
Total Credits: 17		
Semester 2		
AVT 340 - Human Factors in Aviation	3	
AVT 386 - Aerodynamics	3	
ENGL 302 - Technical Writing	3	
PPIL 211 - Professional Commercial Pilot	3	
PPIL 212 - Professional Commercial Pilot Flight Lab I	2	
Free Elective (Institutionally Designated Area)	3	**KSC 070**
Total Credits: 17		
Third Year		
Semester 1		

PPIL 213 - Professional Commercial Pilot Flight Lab II	2	
PPIL 325 - Advanced Aircraft Systems	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Natural & Physical Sciences Requirement - Lab	4	
Aviation Elective	3	
Total Credits: 15		
Semester 2		
BUS 315 - Supervisory Management	3	
COT 480 - Professional Conduct, Ethics, and Analysis	3	
PPIL 310 - Fundamentals of Instruction/Advanced Ground Instructor Ground School	3	
PPIL 311 - Certificated Flight Instructor-Airplane Ground School	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Aviation Elective	1	
Total Credits: 16		
Fourth Year		
Semester 1		
BUS 400 - Marketing Techniques and Applications	3	
PPIL 262 - Multi-Engine Ground School	1	
PPIL 263 - Multi-Engine Flight Lab **OR**	1	
PPIL 314 - Certified Flight Instructor Flight Lab	2	
PPIL 387 - Crew Resource Management I	3	
STAT 225 - Introduction to Statistics	3	
Aviation Elective	3	

Total Credits: 14			
Semester 2			
AVT 440 - Air Carrier Operations	3		
AVT 445 - Aviation Law	3		
AVT 497 - Senior Capstone	3		
Aviation Elective	3		
Total Credits: 12			
Total Program Hours: 120			

Aeronautical Technology - Uncrewed Aircraft Systems (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
COMM 106 - Public Speaking I	3	**KSC 020**	
MATH 100 - College Algebra	3	**KSC 030**	
UAS 114 - Remote Pilot Certification for UAS	2		
UAS 115 - Introduction to Multi-Rotor Flight Lab	1		
AVT 100 –Introduction to Aviation	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
Total Credits: 15			
Semester 2			
UAS 270 - Introduction to UAS	3		
UAS 312 – UAS Flight Instructor Ground School	3		

UAS 314 – Multi-rotor Instructor Flight Lab	1		
Arts & Humanities Requirement	3	**KSC 060**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Second Year			
Semester 1			
MATH 150 - Plane Trigonometry	3		
UAS 272 – UAS Safety Fundamentals	3		
UAS 374 – Processing Remotely Sensed Data	3		
Technical Elective	4		
Total Credits: 14			
Semester 2			
AVT 317 - Composites I	3		
ENGL 200 - Expository Writing II	3	**KSC 010**	
UAS 357 – Introduction to UAS Fixed-Wing Flight Lab	2		
PHYS 113 - General Physics I	4	**KSC 040**	
Technical Elective	3		
Total Credits: 15			
Third Year			
Semester 1			
UAS 280 - Multi-Rotor Construction Lab	2		

UAS 367 – Introduction to UAS Automated Fixed-Wing Flight Lab	3		
UAS 387 – UAS Safety Applications	2		
UAS 471 – Advanced Fixed-Wing Operations Flight Lab	2		
Technical Elective	4		
300+ Aviation/Electronics/Computer Elective/Internship	3		
Total Credits: 16			
Semester 2			
AAM 472 – Large Fixed-Wing Operations Flight Lab	2		
AVT 340 – Human Factors in Aviation	3		
BUS 315 – Supervisory Management	3		
ENGL 302 - Technical Writing	3		
Social & Behavioral Science Requirement	3	**KSC 050**	
Technical Elective	3		
Total Credits: 17			
Fourth Year			
Semester 1			
AVT 450 - Aviation Safety Management	3		
UAS 300 - UAS Powerplant Fundamentals	3		
UAS 480 - UAS Senior Design Project I	1		
Social & Behavioral Science Requirement	3	**KSC 050**	
Technical Elective	3		
Technical Elective - 300+	3		
Total Credits: 16			

Semester 2			
UAS 465 –Fixed-Wing Construction Lab and Autopilot Integration	3		
UAS 481 - UAS Senior Design Project II	2		
Arts & Humanities Requirement	3	**KSC 060**	
Natural Science Elective with Lab	4		
Total Credits: 12			
Total Program Hours: 120			

Aviation Maintenance (AAS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
AVM 101 - Introduction to Aircraft Materials and Tooling Standards	2		
AVM 102 - Aviation Regulations, Compliance and Operations	2		
AVM 103 - Intro to Aircraft Materials and Tooling Standards Laboratory	1		
AVM 111 - Basic Aircraft Electricity	4		
AVM 121 - Aircraft Drawings	2		
ENGL 100 - Expository Writing I	3	**KSC 010**	
Humanities/Social Science Electives	3		
Total Credits: 17			
Semester 2			
AVM 201 - Aircraft Metallic Primary Structures	3		
AVM 203 - Aircraft Environmental and Fire Protection Systems	2		

AVM 204 - Aircraft Environmental and Fire Protection Systems Laboratory	1		
AVM 205 - Aircraft Landing Gear and Fluid Power Systems	3		
AVM 207 - Aircraft Electrical Systems	3		
COMM 106 - Public Speaking I	3	**KSC 020**	
MATH 100 - College Algebra	3	**KSC 030**	
Total Credits: 18			
Second Year			
Semester 1			
AVM 216 - Aircraft Propulsion Drive Systems	3		
AVM 303 - Introduction to Aircraft Composite Structures	3		
AVM 305 - Aircraft Avionics and Instrument Systems	3		
AVM 306 - Rotary and Fixed Wing Aircraft Design and Assembly	3		
Total Credits: 12			
Semester 2			
AVM 301 - Advanced Reciprocating Powerplant Technology	3		
AVM 304 - Aircraft Fuel Management and Metering Systems	3		
AVM 322 - Powerplant Operation and Troubleshooting	3		
AVM 402 - Gas Turbine Powerplant Technology	3		
AVM 141 - Aircraft Science	3		
Total Credits: 15			
Total Program Hours: 62			

Professional Pilot (AAS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
AVT 100 - Introduction to Aviation	3		
MATH 100 - College Algebra	3	**KSC 030**	
PPIL 111 - Private Pilot	4		
PPIL 113 - Private Pilot Flight Lab	1		
Humanities/Social Science/Business Elective	3		
Total Credits: 14			
Semester 2			
AVT 242 - Aviation Meteorology	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 150 - Plane Trigonometry	3		
PPIL 112 - Professional Instrument Pilot	3		
PPIL 114 - Professional Instrument Pilot Flight Lab	1		
PSYCH 110 - General Psychology	3	**KSC 050**	
Total Credits: 16			
Second Year			
Semester 1			
AVT 386 - Aerodynamics	3		
COMM 106 - Public Speaking I	3	**KSC 020**	
PHYS 113 - General Physics I	4	**KSC 040**	
PPIL 211 - Professional Commercial Pilot	3		
PPIL 212 - Professional Commercial Pilot Flight Lab I	2		

Total Credits: 15			
Semester 2			
AVT 340 - Human Factors in Aviation	3		
PPIL 210 - Aviation Safety	3		
PPIL 213 - Professional Commercial Pilot Flight Lab II	2		
PPIL 262 - Multi-Engine Ground School	1		
PPIL 263 - Multi-Engine Flight Lab	1		
Aviation Elective	2		
Economic Elective	3		
Total Credits: 15			
Total Program Hours: 60			

Integrated Studies

Troy Harding, Head

Kansas State University Salina
Aerospace and Technology Campus
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Kansas State Aerospace & Technology provides a small campus atmosphere with a professional learning environment built on theory, research and industry application in the classroom. Students can choose from serveral undergraduate programs, certificates, and master's programs, making the university an equally diverse community of traditional and nontraditional students.

Associate of Science

Applied Business (AS)

This two-year associate's degree enables the graduate to succeed in an entry-level business position or to continue working toward a bachelor's degree in one of many business fields; including business, accounting, and management.

Associate's degree requirements (61 credit hours)

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Math Requirement

If not met through K-State Core requirements, MATH 100 is required.

KSC-030
MATH 100 - College Algebra **Credits:** 3

Business Core (18 credit hours)

BUS 110 - Introduction to Business **Credits:** 3
BUS 251 - Financial Accounting **Credits:** 3
BUS 252 - Managerial Accounting **Credits:** 3
BUS 315 - Supervisory Management **Credits:** 3
BUS 366 - Management with Information Technology **Credits:** 3
ENGL 302 - Technical Writing **Credits:** 3

Business Elective (9 credit hours)

Choose from the following:
BUS 400 - Marketing Techniques and Applications **Credits:** 3
BUS 420 - Management Perspectives **Credits:** 3
BUS 410 - Managerial and Project Economics **Credits:** 3
COT 495 - Advanced Industrial Internship **Credits:** 0-6

Total Hours Required: 61

Engineering Technology - Electronic and Computer Engineering Technology (AS)

Electronic and computer engineering technicians work in all areas of the electronics industry, including industrial control electronics, communications, and digital systems. These individuals work closely with electronic engineering technologists, electrical engineers, computer scientists, and other professionals in the design, development, marketing, and maintenance of electronic products and systems.

Kansas State University Core: 34-36 Credit Hours

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General Education: K-State Core

Program Requirements: [3] Credit Hours

Math Requirement: [3] Credit Hours

If not met through K-State Core requirements, MATH 100 is required.

MATH 100 - College Algebra **Credits:** 3
KSC-030
MATH 150 - Plane Trigonometry **Credits:** 3

Physics Requirement: [4] Credit Hours

PHYS 113 - General Physics I **Credits:** 4 [Counted in Core]

Major Requirements: 26 credit hours

ECET 100 - Basic Electronics **Credits:** 3
ECET 101 - Circuits I **Credits:** 4
ECET 220 - Semiconductor Electronics **Credits:** 4
ECET 250 - Digital Logic **Credits:** 3
ECET 301 - Circuits II **Credits:** 4
ECET 335 - Industrial Control Topics **Credits:** 1
ECET 350 - Microprocessor Fundamentals **Credits:** 3
Restricted Elective: **Choose from the list below**
ECET 340 - Electronic Manufacturing **Credits:** 3
CYBR 250 - Hardware and Network Fundamentals **Credits:** 3
MET 382 - Industrial Instrumentation and Controls **Credits:** 3

Total Hours Required for Graduation: 63

Engineering Technology - Mechanical Engineering Technology (AS)

The mechanical engineering technology program prepares graduates for applied mechanical and manufacturing engineering-related careers with a hands-on, practical approach. The program emphasizes understanding how engineering principles are applied in practice, rather than purely the mathematical methods used.

The mechanical engineering technology program is built upon a strong foundation of science, mathematics, and applied technical courses designed to meet the diverse needs of the industrial workforce. Mechanical engineering technology concepts are used in all types of industry and are directly applied to product design and manufacturing. Courses in technical graphics with CAD, manufacturing processes, materials, material strength and testing, computer numerical control, automated manufacturing systems, machine design, quality control, and economics provide the student with a broad range of expertise for a career in mechanical engineering technology.

Graduates of the mechanical engineering technology program work within engineering teams in applied design, project management, product development, testing, manufacturing, plant operations, maintenance, or technical sales. Associate degree graduates accept jobs as engineering technicians, engineering aides, plant operation and maintenance staff, layout staff, production assistants, and technical sales staff.

Associate degree requirements (64 credit hours)

Kansas State University Core: 34-36 Credit Hours

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General Education: K-State Core

Program Requirements: [3] Credit Hours

Physics Requirement: [4] Credit Hours

PHYS 113 - General Physics I **Credits:** 4 [Counted in Core]

Math Requirement: [3] Credit Hours

MATH 100 - College Algebra **Credits:** 3 [Counted in Core]

MATH 150 - Plane Trigonometry **Credits:** 3

Major Requirements: 27 credit hours

ECET 100 - Basic Electronics **Credits:** 3
MET 111 - Technical Graphics **Credits:** 3
MET 117 - Mechanical Modeling and Detailing **Credits:** 3
MET 121 - Manufacturing Methods **Credits:** 3
MET 125 - Computer-Numerical-Controlled Machine Processes **Credits:** 2
MET 211 - Statics **Credits:** 3
MET 230 - Automated Manufacturing Systems I **Credits:** 3
MET 245 - Material Strength and Testing **Credits:** 3
MET 264 - Machine Design Technology I **Credits:** 4

Total Hours Required for Graduation: 64

Engineering Technology - Web Development Technology (AS)

The web development technology program builds a foundation in computer science and applies these concepts to the world of e-commerce and website development. All students take introductory classes in operating systems and program design. The program also includes courses in programming and network administration.

Students interested in programming-oriented careers will find the curriculum challenging and rewarding. Students obtain experience with client-side programming, server-side programming, video and audio streaming, as well as database integration and other ways to make the web an effective tool for business.

Students also learn project management and the use of timetables and other organizational techniques. Software tools including Flash, DreamWeaver, and Javascript are utilized, but the main curriculum emphasis is on programming solutions to actual problems.

Required for graduation (61 credit hours)

Kansas State University Core: 34-36 Credit Hours

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General Education: K-State Core

Major Requirements: 27 Credit Hours

CYBR 103 - Computing Principles **Credits:** 3
CYBR 180 - Introduction to Database Systems **Credits:** 3
CYBR 247 - Programming I **Credits:** 3
CYBR 250 - Hardware and Network Fundamentals **Credits:** 3
CYBR 335 - Programming II **Credits:** 3

CMST 135 - Web Fundamentals **Credits:** 3
CMST 332 - Web Development Project **Credits:** 3
DIGME 137 - Fundamentals of Visual Communication **Credits:** 3
Choose One Of the Following:
CYBR 163 - Fundamentals of Design Thinking **Credits:** 3
CMST 252 - System and Software Fundamentals **Credits:** 3

Total Hours Required for Graduation: 61

Bachelor of Science

Applied Business and Technology - Applied Business (BS)

The Bachelor of Science in Applied Business and Technology provides students with knowledge and skills designed to enhance their employability and upward mobility in the technical field of their choice. Students take courses in the diverse areas of management, accounting, and marketing; as well as in other essential business areas. The technology concentration courses can be done in any of a number of technical disciplines. Graduates are prepared for supervisory and management positions in a variety of technical areas, ranging from aviation and manufacturing to sales and product development.

The Applied Business Option allows students to build a more integrated business focus, with additional studies in mathematics and applied business electives.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements (21 credit hours)

The curriculum for this major assumes students enter college prepared to take Calculus.

Economic Requirement (3 credit hours)

ECON 120 - Principles of Microeconomics **Credits:** 3

English Requirement: (3 credit hours)

ENGL 302 - Technical Writing **Credits:** 3

Statistics Requirement: (3 credit hours)

STAT 225 - Introduction to Statistics **Credits:** 3

Computer Elective Requirement: (3 credit hours)

Natural Science Elective Requirement: (3 credit hours)

Communication Elective Requirement: (3 credit hours)

Must be 300+

Math Requirement: (3 credit hours)

MATH 205 - General Calculus **Credits:** 3

Professional Studies

Professional Studies: (65 credit hours)

Area of Concentration: 29

Business & Management: 30

BUS 110 - Introduction to Business **Credits:** 3
BUS 251 - Financial Accounting **Credits:** 3
BUS 252 - Managerial Accounting **Credits:** 3
BUS 315 - Supervisory Management **Credits:** 3
BUS 366 - Management with Information Technology **Credits:** 3
BUS 390 - Foundations of Business Law **Credits:** 3
BUS 400 - Marketing Techniques and Applications **Credits:** 3
BUS 420 - Management Perspectives **Credits:** 3
BUS 450 - Integrated Finance **Credits:** 3
BUS 520 - Integrated Technology Management Capstone **Credits:** 3

Area of Concentration, 300+ **Credits: 12**
Area of Concentration **Credits: 17**

Business Electives: (Choose 6 credit hours)

BUS 410 - Managerial and Project Economics **Credits:** 3
BUS 421 - Applied Operations Management **Credits:** 3
BUS 530 - Practices of Industrial and Labor Relations **Credits:** 3
BUS 531 - Strategic Human Resource Management **Credits:** 3
BUS 542 - Personal Selling and Sales Management **Credits:** 3
COT 450 - Salina International Experience **Credits:** 0-6
COT 480 - Professional Conduct, Ethics, and Analysis **Credits:** 3

COT 495 - Advanced Industrial Internship **Credits:** 0-6

Total Hours Required for Graduation: 120

Applied Business and Technology - Technology Management (BS)

The Bachelor of Science in Applied Business and Technology provides students with knowledge and skills designed to enhance their employability and upward mobility in the technical field of their choice. Students take courses in the diverse areas of management, accounting, and marketing; as well as in other essential business areas. The technology concentration courses can be done in any of a number of technical disciplines. Graduates are prepared for supervisory and management positions in a variety of technical areas, ranging from aviation and manufacturing to sales and product development.

The Technology Management Option allows students transferring from two-year institutions to apply up to 39 credit-hours of their technical specialty, as well as general education courses, for a total of 60 credit-hours transferrable to Kansas State. The Applied Business Option allows students to build a more integrated business focus, with additional studies in mathematics and applied business electives.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements (17 credit hours)

If not met through K-State Core requirements, MATH 100 is required.

ECON 110 - Principles of Macroeconomics **Credits:** 3
ECON 120 - Principles of Microeconomics **Credits:** 3
ENGL 302 - Technical Writing **Credits:** 3
MATH 100 - College Algebra **Credits:** 3
KSC 030
STAT 225 - Introduction to Statistics **Credits:** 3
Natural Science Elective **Credits:** 3
Electives **Credits:** 2

Required Technology Management Coursework (30 credit hours)

Required (18 credit hours)

BUS 251 - Financial Accounting **Credits:** 3

BUS 252 - Managerial Accounting **Credits:** 3
BUS 315 - Supervisory Management **Credits:** 3
BUS 366 - Management with Information Technology **Credits:** 3
BUS 420 - Management Perspectives **Credits:** 3
BUS 520 - Integrated Technology Management Capstone **Credits:** 3

Electives (12 credit hours)

BUS 390 - Foundations of Business Law **Credits:** 3
BUS 400 - Marketing Techniques and Applications **Credits:** 3
BUS 410 - Managerial and Project Economics **Credits:** 3
BUS 421 - Applied Operations Management **Credits:** 3
BUS 450 - Integrated Finance **Credits:** 3
BUS 530 - Practices of Industrial and Labor Relations **Credits:** 3
BUS 531 - Strategic Human Resource Management **Credits:** 3
BUS 542 - Personal Selling and Sales Management **Credits:** 3
COT 450 - Salina International Experience **Credits:** 0-6 **
COT 480 - Professional Conduct, Ethics, and Analysis **Credits:** 3
COT 495 - Advanced Industrial Internship **Credits:** 0-6

Area of Concentration (39 credit hours*)

This block of courses may include course work in one area of concentration, or related multiple certificates, options, or specialization areas other than business. Courses accepted for transfer to K-State must be academic college-level courses.

***At least 15 credits of electives and/or the Area of Concentration must be upper-level courses (300+).**

****Repeatable with approval of Integrated Studies Department Head.

Total Hours Required for Graduation: 120

Cyber Systems Design & Dynamics - Immersive Systems Design (BS)

Cyber Systems Design & Dynamics (CSDD) is an innovative degree program merging the realms of digital design, human-computer interaction, virtual and augmented reality, data science, and intelligent computing systems architecture. This program equips students with unique and in-demand skills to create engaging virtual environments, immersive applications, predictive data systems, cyber physical systems, and interactive media. Coursework involves software development and engineering, machine learning, data engineering, 3D modeling, UX/UI design, narrative creation, and the psychological aspects of immersive technology. Engaging projects are an essential part of the curriculum and are designed to reinforce theoretical learnings. Additionally, hands-on cooperative industry experience provides real-world exposure for students. Graduates gain skills applicable to industries like aersospace, entertainment, education, healthcare, and manufacturing—preparing them for roles such as an XR designer, immersive content creator, data scientist, machine learning engineer, computer vision engineer, or UX designer. This degree is a strategic investment for those looking to thrive in a technologically advanced world and is ideal for tech-savvy creatives keen on redefining how people interact with digital worlds.

Kansas State University Core: 34-36 Credit Hours

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General Education: K-State Core

Program Requirements

Additional Course Requirements: 23 credit hours

The curriculum for this major assumes students enter college prepared to take Calculus.

ENGL 302 - Technical Writing **Credits:** 3
COT 480 - Professional Conduct, Ethics, and Analysis **Credits:** 3
STAT 225 - Introduction to Statistics **Credits:** 3
MATH 150 - Plane Trigonometry **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
PHYS 113 - General Physics I **Credits:** 4
Business Elective (300 or 400 Level)

Foundational CSDD Course Requirements: 27 credit hours

CYBR 103 - Computing Principles **Credits:** 3
CYBR 137 - Principles of Interactive Digital Storytelling **Credits:** 3
CYBR 163 - Fundamentals of Design Thinking **Credits:** 3
CYBR 180 - Introduction to Database Systems **Credits:** 3
CYBR 247 - Programming I **Credits:** 3
CYBR 250 - Hardware and Network Fundamentals **Credits:** 3
CYBR 280 - Applied Mathematics for Cyber Systems **Credits:** 3
CYBR 335 - Programming II **Credits:** 3
MLAS 100 - Survey of Machine Learning and Autonomous Systems **Credits:** 3

Degree Options

Choose 1 of the 2 Degree Options

Immersive Systems Design Option: 36 credit hours

CYBR 210 - Interactive Media Development **Credits:** 3
CYBR 301 - Immersive COOP Studio I **Credits:** 3
CYBR 360 - Foundations of Game Engine Design and Development **Credits:** 3
CYBR 401 - Immersive COOP Studio II **Credits:** 3
CYBR 495 - Immersive Cyber Systems Capstone I **Credits:** 3

CYBR 497 - Immersive Cyber Systems Capstone II **Credits:** 3

Choose 6 courses from the following list:

CYBR 310 - 3D Animation and Asset Production for XR **Credits:** 3
CYBR 320 - Foundations of Interactive Narratives **Credits:** 3
CYBR 322 - Multi-platform Interactive Media Design **Credits:** 3
CYBR 330 - Interactive Game and Audio Design **Credits:** 3
CYBR 332 - 3D Design and Modeling for XR **Credits:** 3
CYBR 357 - Computer Vision for Immersive Systems **Credits:** 3
CYBR 365 - User Experience (UX) Design for Immersive Systems **Credits:** 3
CYBR 366 - Cyber Security Operations **Credits:** 3
CYBR 391 - Data Structures and Algorithms for Cyber Systems **Credits:** 3
CYBR 443 - Interactive Systems Design for Virtual Reality (VR) **Credits:** 3
CYBR 445 - Interactive Systems Design for Augmented Reality (AR) **Credits:** 3
CYBR 455 - Human Computer Interactions for Cyber Systems **Credits:** 3
CYBR 457 - Intelligent Spatial Computing Systems **Credits:** 3
CYBR 459 - Real-time Computing Systems **Credits:** 3
CYBR 460 - Software Engineering for Intelligent Cyber Systems **Credits:** 3
CYBR 601 - Introduction to Cybernetic Modeling and Simulation **Credits:** 3

Machine Learning & Autonomous Systems Option: 36 credit hours

ETB 310 - Applied Data Analysis and Tools **Credits:** 3
MLAS 200 - Introduction to Automata and Cybernetic Systems Theory **Credits:** 3
MLAS 350 - Data Structures for Machine Learning **Credits:** 3
MLAS 390 - Unsupervised Learning in Autonomous Systems **Credits:** 3
MLAS 400 - Supervised learning in Autonomous Systems **Credits:** 3
MLAS 410 - Natural Language Processing **Credits:** 3
MLAS 412 - Deep Learning **Credits:** 3
MLAS 500 - Reinforcement Learning in Autonomous Systems **Credits:** 3
MLAS 501 - Artificial Intelligence Studio **Credits:** 3-6
MLAS 502 - Autonomous Systems Senior Capstone **Credits:** 6
STAT 705 - Regression and Analysis of Variance **Credits:** 3
STAT 730 - Multivariate Statistical Methods **Credits:** 3

Total Hours Required for Graduation: 120

Cyber Systems Design & Dynamics - Machine Learning & Autonomous Systems (BS)

Cyber Systems Design & Dynamics (CSDD) is an innovative degree program merging the realms of digital design, human-computer interaction, virtual and augmented reality, data science, and intelligent computing systems architecture. This program equips students with unique and in-demand skills to create engaging virtual environments, immersive applications, predictive data systems, cyber physical systems, and interactive media. Coursework involves software development and engineering, machine learning, data engineering, 3D modeling, UX/UI design, narrative creation, and the psychological aspects of immersive technology. Engaging projects are an essential part of the curriculum and are designed to reinforce theoretical learnings. Additionally, hands-on cooperative industry experience provides real-world exposure for students. Graduates gain skills applicable to industries like aersospace, entertainment, education, healthcare, and manufacturing—preparing them for roles such as an XR designer, immersive content creator, data scientist, machine learning engineer, computer vision engineer, or UX designer. This degree is a strategic investment for those looking to thrive in a technologically advanced world and is ideal for tech-savvy creatives keen on redefining how people interact with digital worlds.

Kansas State University Core: 34-36 Credit Hours

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General Education: K-State Core

Program Requirements

The curriculum for this major assumes students enter college prepared to take Calculus.

Foundational CSDD Course Requirements: 27 Credit Hours

CYBR 103 - Computing Principles **Credits:** 3
CYBR 137 - Principles of Interactive Digital Storytelling **Credits:** 3
CYBR 163 - Fundamentals of Design Thinking **Credits:** 3
CYBR 180 - Introduction to Database Systems **Credits:** 3
CYBR 247 - Programming I **Credits:** 3
CYBR 250 - Hardware and Network Fundamentals **Credits:** 3
CYBR 280 - Applied Mathematics for Cyber Systems **Credits:** 3
CYBR 335 - Programming II **Credits:** 3
MLAS 100 - Survey of Machine Learning and Autonomous Systems **Credits:** 3

Additional Course Requirements: 23 Credit Hours

ENGL 302 - Technical Writing **Credits:** 3
COT 480 - Professional Conduct, Ethics, and Analysis **Credits:** 3
STAT 225 - Introduction to Statistics **Credits:** 3
MATH 150 - Plane Trigonometry **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
PHYS 113 - General Physics I **Credits:** 4

Degree Option

Machine Learning & Autonomous Systems Option: 36 Credit Hours

ETB 310 - Applied Data Analysis and Tools **Credits:** 3
STAT 705 - Regression and Analysis of Variance **Credits:** 3
STAT 730 - Multivariate Statistical Methods **Credits:** 3
MLAS 200 - Introduction to Automata and Cybernetic Systems Theory **Credits:** 3
MLAS 350 - Data Structures for Machine Learning **Credits:** 3

MLAS 390 - Unsupervised Learning in Autonomous Systems **Credits:** 3
MLAS 400 - Supervised learning in Autonomous Systems **Credits:** 3
MLAS 410 - Natural Language Processing **Credits:** 3
MLAS 412 - Deep Learning **Credits:** 3
MLAS 500 - Reinforcement Learning in Autonomous Systems **Credits:** 3
MLAS 501 - Artificial Intelligence Studio **Credits:** 3-6
MLAS 502 - Autonomous Systems Senior Capstone **Credits:** 6

Total Hours Required for Graduation: 120

Engineering Technology - Electronic and Computer Engineering Technology (BS)

Students may continue their studies in electronic and computer engineering technology beyond the associate degree level to obtain the bachelor of science degree. The bachelor's degree typically requires two years of study beyond the associate degree.

Course work in the junior and senior years of the bachelor's degree program provides additional depth of understanding of circuit analysis techniques, digital systems, data communications, and industrial electronics. Individual and group project assignments are emphasized. Additional mathematics, science, and elective courses provide a strong background with which graduates are prepared for the technical professions of tomorrow.

Graduates work as electronic and computer engineering technologists in many industrial settings. Career activities include product design and development, industrial automation, technical sales, and project management.

The bachelor's degree program in electronic and computer engineering technology is accredited by the Engineering Technology Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012. Telephone: (410) 347-7700. Website: www.abet.org.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements (22-24 credit hours)

The curriculum for this major assumes students enter college prepared to take Calculus.

KSC-030
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
Free Electives (13-15 credit hours) **Credits / Units:** 13-15

Professional Studies

Professional Studies: (62 credit hours)

ECET 100 - Basic Electronics **Credits:** 3
CYBR 250 - Hardware and Network Fundamentals **Credits:** 3
CMST 302 - Applications in C Programming for Engineering Technology **Credits:** 3
ECET 101 - Circuits I **Credits:** 4
ECET 220 - Semiconductor Electronics **Credits:** 4
ECET 250 - Digital Logic **Credits:** 3
ECET 301 - Circuits II **Credits:** 4
ECET 304 - Electric Power and Devices **Credits:** 3
ECET 320 - Electronic Communication Systems **Credits:** 3
ECET 335 - Industrial Control Topics **Credits:** 1
ECET 340 - Electronic Manufacturing **Credits:** 3
ECET 350 - Microprocessor Fundamentals **Credits:** 3
ECET 352 - Digital Circuits and Systems **Credits:** 3
OR
ECET 354 - Microcontroller Applications **Credits:** 3
ECET 420 - Communication Circuits Design **Credits:** 3
OR
ETB 420 - Unmanned Communication Circuits **Credits:** 3
ECET 430 - Signals and Systems **Credits:** 3
ECET 450 - Digital Systems and Computer Architecture **Credits:** 4
ECET 480 - Electronic Design I **Credits:** 1
ECET 481 - Electronic Design II **Credits:** 2
MET 382 - Industrial Instrumentation and Controls **Credits:** 3
Technical Electives Credits: 6 Credits / Units: 6
Includes courses with a prefix of AIT, ECET, MET, RAET, RAS **Credits / Units:** 6

Total Hours Required for Graduation: 120

Engineering Technology - Mechanical Engineering Technology (BS)

Focus on technical graphics with computer-aided drafting, material strength and testing, computer numerical control, economics, quality control and machine design.

Plans become reality in our design and build laboratory. Mechanical engineering students learn in 5,000-square feet of creative space where concepts are designed, prototyped and tested. Students have access to modern technology and equipment, such as 3D printers, a CNC vertical machining center, a laser printer and more.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements (17 credit hours)

The curriculum for this major assumes students enter college prepared to take Calculus.

Computer Requirement: (3 credit hours)

Computer Elective (300+)

English Requirement: (3 credit hours)

ENGL 302 - Technical Writing **Credits:** 3

Physics Requirement: (4 credit hours)

PHYS 113 - General Physics I **Credits:** 4

Math Requirement: (7 credit hours)

MATH 150 - Plane Trigonometry **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Professional Studies (70 credit hours)

MET 117 - Mechanical Modeling and Detailing **Credits:** 3
MET 121 - Manufacturing Methods **Credits:** 3
MET 125 - Computer-Numerical-Controlled Machine Processes **Credits:** 2
MET 211 - Statics **Credits:** 3
MET 230 - Automated Manufacturing Systems I **Credits:** 3
MET 231 - Physical Materials and Metallurgy **Credits:** 3
MET 245 - Material Strength and Testing **Credits:** 3
MET 252 - Fluid Power Technology **Credits:** 3
MET 264 - Machine Design Technology I **Credits:** 4
MET 314 - Finite Element Analysis and Design Modeling **Credits:** 3
MET 336 - Dynamics of Machines **Credits:** 3
MET 346 - Elements of Mechanisms **Credits:** 3
MET 353 - Fluid Mechanics **Credits:** 3
MET 365 - Machine Design Technology II **Credits:** 3
MET 382 - Industrial Instrumentation and Controls **Credits:** 3
MET 462 - Senior Design Project I **Credits:** 1
MET 464 - Senior Design Project II **Credits:** 2
MET 471 - Thermodynamics and Heat Transfer **Credits:** 4
MET 481 - Automated Manufacturing Systems II **Credits:** 3
ECET 100 - Basic Electronics **Credits:** 3
ECET 304 - Electric Power and Devices **Credits:** 3

ETB 310 - Applied Data Analysis and Tools **Credits:** 3
Technical Electives (300+) **Credits:** 6

Total Hours Required for Graduation: 121

Engineering Technology - Robotics and Automation (BS)

The Robotics and Automation Engineering Technology program responds to the need for skilled engineering technology professionals in the thriving and growing fields of robotics and automation. Both are dynamic fields involving the design, building, programming, functional use, and maintenance of machinery. The distinction being that robotic systems may be designed to perform different tasks under software control. Whereas, automation systems are typically designed for a single task and operate in a more deterministic environment. Despite the minor differences in the application of the machinery, the skill sets required of engineers working in these fields are closely aligned. The nature of the field requires that workers not only have solid technical engineering knowledge, but also know both how to apply the knowledge in hands-on laboratory and factory settings, and how to communicate well. The Robotics and Automation Engineering Technology degree is designed to give students the advantage of a solid background in the three cornerstone disciplines of the field – mechanical engineering technology, electronic and computer engineering technology, and computer systems technology. Students take select courses from the three disciplines that provide an engineering foundation and directly relate to robotics and automation.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements (20 credit hours)

The curriculum for this major assumes students enter college prepared to take Calculus.

English Requirements: (3 credit hours)

ENGL 302 - Technical Writing **Credits:** 3

Math Requirements: (7 credit hours)

MATH 150 - Plane Trigonometry **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Physics Requirements (4 credit hours)

PHYS 113 - General Physics I **Credits:** 4

(included in core)

PHYS 114 - General Physics II **Credits:** 4

COT Requirements: (2 credit hours)

COT 301 - Six Sigma Analysis and Problem Solving I **Credits:** 1
COT 302 - Six Sigma Analysis and Problem Solving II **Credits:** 1

Professional Studies (64 credit hours)

CYBR 180 - Introduction to Database Systems **Credits:** 3
CMST 302 - Applications in C Programming for Engineering Technology **Credits:** 3
RA 305 - Robotics Programming **Credits:** 3
RA 357 - Machine Vision **Credits:** 3
RAS 385 - Advanced Programmable Logic Controllers **Credits:** 3
ECET 100 - Basic Electronics **Credits:** 3
ECET 250 - Digital Logic **Credits:** 3
ECET 304 - Electric Power and Devices **Credits:** 3
ECET 350 - Microprocessor Fundamentals **Credits:** 3
ECET 352 - Digital Circuits and Systems **Credits:** 3

OR

ECET 354 - Microcontroller Applications **Credits:** 3
ETB 310 - Applied Data Analysis and Tools **Credits:** 3
ETB 482 - Senior Design Project I **Credits:** 1
ETB 483 - Senior Design Project II **Credits:** 1-3
MET 117 - Mechanical Modeling and Detailing **Credits:** 3
MET 121 - Manufacturing Methods **Credits:** 3
MET 211 - Statics **Credits:** 3
MET 230 - Automated Manufacturing Systems I **Credits:** 3
MET 240 - Industrial Robotics Laboratory **Credits:** 2
MET 245 - Material Strength and Testing **Credits:** 3
MET 264 - Machine Design Technology I **Credits:** 4
MET 336 - Dynamics of Machines **Credits:** 3
MET 382 - Industrial Instrumentation and Controls **Credits:** 3

300+ Technical Electives (7 credit hours)

Choose from the list below.

ECET 430 - Signals and Systems **Credits:** 3
ETB 483 - Senior Design Project II **Credits:** 1-3
MET 346 - Elements of Mechanisms **Credits:** 3
MET 481 - Automated Manufacturing Systems II **Credits:** 3
RA 342 - Industrial Robotics Lab 2 **Credits:** 1
RA 343 - Industrial Robotics Lab 3 **Credits:** 1
RA 444 - Integrated Robotics Studio **Credits:** 0-2

Total Hours Required for Graduation: 121

Engineering Technology - Uncrewed Aircraft Systems (BS)

Tailored to combine computer science, electronic engineering and mechanical engineering with uncrewed systems, students in this program will explore the intricacies of UAS subsystems and components, such as software design, computer networking, firmware and hardware, sensors and actuators, and camera systems and other payloads.

Students will be expected to execute critical thinking, problem solving and research skills while engaging in classes about electronic circuits, communication systems, control systems, machine design, manufacturing technology, materials technology and fundamentals of UAS operations.

No flight ratings required.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements (14 credit hours)

The curriculum for this major assumes students enter college prepared to take Calculus.

ENGL 302 - Technical Writing **Credits:** 3
MATH 150 - Plane Trigonometry **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
PHYS 113 - General Physics I **Credits:** 4

Professional Studies (56 credit hours)

AVT 317 - Composites I **Credits:** 3
AVT 450 - Aviation Safety Management **Credits:** 3
CMST 302 - Applications in C Programming for Engineering Technology **Credits:** 3
CYBR 250 - Hardware and Network Fundamentals **Credits:** 3
ECET 101 - Circuits I **Credits:** 4
ECET 100 - Basic Electronics **Credits:** 3
ECET 220 - Semiconductor Electronics **Credits:** 4
ECET 250 - Digital Logic **Credits:** 3
ECET 301 - Circuits II **Credits:** 4
ECET 320 - Electronic Communication Systems **Credits:** 3
ETB 480 - UAS Senior Design I **Credits:** 1

ETB 481 - UAS Senior Design II **Credits:** 2
MET 211 - Statics **Credits:** 3
MET 245 - Material Strength and Testing **Credits:** 3
MET 336 - Dynamics of Machines **Credits:** 3
UAS 270 - Introduction to UAS **Credits:** 3
UAS 280 - Multi-Rotor Construction Lab **Credits:** 2
UAS 300 - UAS Powerplant Fundamentals **Credits:** 3
UAS 465 - Fixed-Wing Construction Lab and Autopilot Integration **Credits:** 3

Restricted Electives (6 credit hours)

ECET 340 - Electronic Manufacturing **Credits:** 3
ECET 430 - Signals and Systems **Credits:** 3
ETB 352 - Microcontroller applications in Unmanned Systems **Credits:** 3
ETB 420 - Unmanned Communication Circuits **Credits:** 3

Technical Electives (10 credit hours)

10 credit hours required, 8 credit hours 300+ level

AVT 400 - Composites II **Credits:** 3
AVT 417 - Composites III **Credits:** 3
CMST 315 - Introduction to System Administration **Credits:** 3
CMST 344 - Internetworking **Credits:** 3
ECET 350 - Microprocessor Fundamentals **Credits:** 3
ECET 352 - Digital Circuits and Systems **Credits:** 3
ECET 430 - Signals and Systems **Credits:** 3
ECET 450 - Digital Systems and Computer Architecture **Credits:** 4
ETB 310 - Applied Data Analysis and Tools **Credits:** 3
MET 325 - Additive Manufacturing **Credits:** 3
MET 353 - Fluid Mechanics **Credits:** 3
MET 471 - Thermodynamics and Heat Transfer **Credits:** 4
UAS 475 - Data Acquisition and Post-processing **Credits:** 3
RA 305 - Robotics Programming **Credits:** 3
RA 357 - Machine Vision **Credits:** 3
UAS 114 - Remote Pilot Certification for UAS **Credits:** 2
UAS 115 - Introduction to Multi-Rotor Flight Lab **Credits:** 1

Total hours required for graduation 120

Minor

Applied Business Minor

The Applied Business minor is available to non-Business and non-Applied Business and Technology majors who will graduate from K-State. At least four of the six required courses must be completed at Kansas State University. Students must achieve a

cumulative 2.50 GPA (K-State and transfer grades) in the six required courses to complete the minor. Note: Transfer grade of a "D" does not transfer.

Upon graduation, most students will be involved in organizations, both profit or nonprofit, that will use business concepts and principles to improve their services or products. To complete the Applied Business Minor, students must graduate from Kansas State University and complete the business courses listed below:

Required courses (18 hours)

BUS 251 - Financial Accounting **Credits:** 3
BUS 252 - Managerial Accounting **Credits:** 3
BUS 400 - Marketing Techniques and Applications **Credits:** 3
BUS 420 - Management Perspectives **Credits:** 3
BUS 450 - Integrated Finance **Credits:** 3
BUS 520 - Integrated Technology Management Capstone **Credits:** 3

Total hours required: 18

STEM Foundations Minor

The STEM Foundations Minor is created for students interested in a foundational knowledge in science, mathematics, and computing technology in addition to their major field of study.

To complete the STEM Foundations minor, students must graduate from Kansas State University and complete the STEM courses listed below.

No more than six hours of transfer courses may be used. Students must achieve a cumulative 2.50 GPA in the required courses to complete the minor. Courses may not be taken pass/fail apart from "credit for prior learning".
Note: All courses applied to the minor must have a grade of "C" or better apart from "credit for prior learning".

Required Courses (24 credit hours)

BIOL 198 - Principles of Biology **Credits:** 4
CHM 110 - General Chemistry **Credits:** 3
CHM 111 - General Chemistry Laboratory **Credits:** 1
CMST 190 - Information Engineering for Data Science **Credits:** 1
CMST 290 - Scientific Programming and Machine Learning **Credits:** 1
GEOL 125 - Natural Disasters **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
MLAS 100 - Survey of Machine Learning and Autonomous Systems **Credits:** 3
PHYS 114 - General Physics II **Credits:** 4

Total Hours Required: 24

Undergraduate Certificate

Advanced Intelligent Systems Programming Undergraduate Certificate

The Advanced Intelligent Systems Programming Undergraduate Certificate is an intensive program designed to equip students with advanced programming skills in the realm of intelligent systems and artificial intelligence (AI). This certificate focuses on topics like machine learning, human-computer interactions, natural language processing, and data analysis. Graduates are well-prepared for careers in AI development, data science, and advanced programming, making this certificate a valuable asset in the tech industry's evolving landscape.

Required Courses (12 credit hours)

CYBR 357 - Computer Vision for Immersive Systems **Credits:** 3
CYBR 391 - Data Structures and Algorithms for Cyber Systems **Credits:** 3
CYBR 455 - Human Computer Interactions for Cyber Systems **Credits:** 3
CYBR 460 - Software Engineering for Intelligent Cyber Systems **Credits:** 3

Total hours required: 12

Applied Cyber Systems Design Undergraduate Certificate

The Applied Cyber Systems Design Undergraduate Certificate is a comprehensive program designed to equip students with the essential knowledge and skills to excel in the dynamic field of cyber system design. This certificate program, typically completed in one to two years, offers a focused curriculum that combines theory with hands-on practical experience.

Required Courses (12 credit hours)

CYBR 103 - Computing Principles **Credits:** 3
CYBR 137 - Principles of Interactive Digital Storytelling **Credits:** 3
CYBR 250 - Hardware and Network Fundamentals **Credits:** 3
MLAS 100 - Survey of Machine Learning and Autonomous Systems **Credits:** 3

Total hours required: 12

Applied Electronics Undergraduate Certificate

Dive into the dynamic world of embedded microprocessor systems with our Undergraduate Certificate in Applied Electronics. This program is designed for students and professionals seeking to develop expertise in designing, programming, and implementing embedded systems that drive innovation across various sectors. Students will engage in practical labs and projects that provide real-world applications of embedded electronics, from concept to prototype. Essential topics include microcontroller architecture, digital and analog electronics, programming for embedded systems, and interfacing techniques.

Required Courses: 12 Hours

CMST 302 - Applications in C Programming for Engineering Technology **Credits:** 3
ECET 350 - Microprocessor Fundamentals **Credits:** 3
ECET 352 - Digital Circuits and Systems **Credits:** 3
ECET 354 - Microcontroller Applications **Credits:** 3

Electives: 6 Hours

Choose 6 credit hours from the following list.

ECET 301 - Circuits II **Credits:** 4
ECET 304 - Electric Power and Devices **Credits:** 3
ECET 320 - Electronic Communication Systems **Credits:** 3
ECET 330 - Industrial Controls **Credits:** 4
ECET 335 - Industrial Control Topics **Credits:** 1
ECET 340 - Electronic Manufacturing **Credits:** 3
ECET 414 - Electromagnetic Applications **Credits:** 4
ECET 420 - Communication Circuits Design **Credits:** 3
ECET 421 - Telecommunication Systems **Credits:** 4
ECET 430 - Signals and Systems **Credits:** 3
ECET 450 - Digital Systems and Computer Architecture **Credits:** 4
ECET 480 - Electronic Design I **Credits:** 1
ECET 481 - Electronic Design II **Credits:** 2
ECET 499 - Advanced Topics in Electronic and Computer Engineering Technology **Credits:** 1-18

Total Hours Required: 18

Applied Machine Learning Undergraduate Certificate

The Applied Machine Learning Undergraduate Certificate is a focused program providing students with practical skills to harness the power of machine learning. Covering key concepts, algorithms, and real-world applications, this certificate equips students to work with data, build predictive models, and leverage AI for problem-solving. With a curriculum blending theory and hands-on experience, graduates are well-prepared for careers in data science, AI development, and analytics, making this program a valuable credential for those entering the tech industry or pursuing further studies in machine learning.

Required Courses (15 credit hours)

MLAS 100 - Survey of Machine Learning and Autonomous Systems **Credits:** 3
MLAS 200 - Introduction to Automata and Cybernetic Systems Theory **Credits:** 3
MLAS 390 - Unsupervised Learning in Autonomous Systems **Credits:** 3
MLAS 400 - Supervised learning in Autonomous Systems **Credits:** 3
MLAS 500 - Reinforcement Learning in Autonomous Systems **Credits:** 3

Total hours required: 15

Applied Manufacturing Undergraduate Certificate

The Certificate of Applied Manufacturing provides entry-level or career-changing students the option of immersing themselves in the principles and practice of manufacturing. The certificate can be issued as a stand-alone qualification, or can be used to gain entry to the Associate's, or Bachelor's, degree in engineering technology, mechanical engineering technology option.

Course Requirements

Minimum cumulative grade point average of 2.5 is required on courses applied to a certificate, and a grade of "C" or better is required in all coursework. All courses applied to the certificate must have letter grades. Courses with grades of "Credit" or "Pass" will not applicable. No more than 25% of total credit hours required for the certificate may be transfer credits.

This is a free-standing certificate; it may be earned without participation in or completion of a degree program.

Required Courses (17 credit hours)

MET 111 - Technical Graphics **Credits:** 3
MET 117 - Mechanical Modeling and Detailing **Credits:** 3
MET 121 - Manufacturing Methods **Credits:** 3
MET 125 - Computer-Numerical-Controlled Machine Processes **Credits:** 2
MET 231 - Physical Materials and Metallurgy **Credits:** 3

Choose 1 of the following:

MET 325 - Additive Manufacturing **Credits:** 3
AVT 317 - Composites I **Credits:** 3

Total credit hours: 17

Autonomous Robotics and Machine Learning Undergraduate Certificate

The Autonomous Robotics and Machine Learning Certificate equips students with the skills to design, program, and deploy autonomous robot systems. This program focuses on integrating machine learning and navigation strategies to develop intelligent robot platforms capable of operating in complex environments. With industries increasingly relying on robotics and artificial intelligence to solve complex challenges, this certificate bridges the gap between cutting-edge technology and practical applications, providing students with a unique blend of theoretical knowledge and hands-on experience.

Required Courses: (14 Credit Hours)

MLAS 100 - Survey of Machine Learning and Autonomous Systems **Credits:** 3
RAS 212 - Introduction to Robot Operating System (ROS) **Credits:** 3
RAS 260 - Path Planning and Navigation **Credits:** 3
RAS 268 - Mobile Robotics Navigation Studio **Credits:** 1
RAS 455 - Robot Embedded Systems **Credits:** 3
RAS 458 - Mobile Robotics Embedded Development Studio **Credits:** 1

Total Hours Required: 14

Composite Repair Undergraduate Certificate

This certificate provides the education and practical experience needed for placement in the rapidly growing composite repair field. In addition, the certificate provides current aviation maintenance workers an avenue through which they may expand their knowledge of and experience with modern composite repair materials and techniques.

Required Core Courses (12 credit hours)

AVT 400 - Composites II **Credits:** 3

AVT 417 - Composites III **Credits:** 3

Choose one of the following:

AVM 303 - Introduction to Aircraft Composite Structures **Credits:** 3
AVT 317 - Composites I **Credits:** 3

Choose one of the following:

COT 495 - Advanced Industrial Internship **Credits:** 0-6
PAV 497 - Senior Capstone **Credits:** 3

Total credit hours: 12

Cyber Systems Programming Undergraduate Certificate

The Cyber Systems Programming Undergraduate Certificate is a specialized program designed to empower students with the knowledge and skills required to excel in the rapidly evolving field of cybernetics and programming. This certificate program typically spans one to two years and offers a comprehensive curriculum that blends theoretical foundations with hands-on practical experience.

Required Courses (12 credit hours)

CYBR 180 - Introduction to Database Systems **Credits:** 3
CYBR 210 - Interactive Media Development **Credits:** 3
CYBR 247 - Programming I **Credits:** 3
CYBR 335 - Programming II **Credits:** 3

Digital Media User Experience (UX) Design Undergraduate Certificate

This certificate program offers a design thinking-centric approach to user experience (UX) design. The courses consist of industry-standard, skill-based instruction encompassed around a digital media visual communication perspective rather than one focused on marketing or programming alone. Throughout the duration of the four courses, students will summarize and demonstrate all stages of the UX design process starting from user research to defining a project's strategy, scope and information architecture, to developing sitemaps and wireframes. The skills acquired in these courses are applicable to a wide variety of careers in digital media.

Requirements: (12 credit hours)

DIGME 137 - Fundamentals of Visual Communication **Credits:** 3

CMST 135 - Web Fundamentals **Credits:** 3
or
DIGME 256 - Digital Literacy **Credits:** 3

CYBR 163 - Fundamentals of Design Thinking **Credits:** 3
CYBR 365 - User Experience (UX) Design for Immersive Systems **Credits:** 3

Total Hours Required: 12

Extended Reality Systems Design Undergraduate Certificate

The Extended Reality Systems Design Undergraduate Certificate is a program that explores the design and development of immersive experiences using augmented, virtual, and mixed reality technologies. Students learn to create cutting-edge XR applications and gain a deep understanding of XR hardware and software systems. This certificate equips graduates with the skills needed for careers in XR development, simulation design, and interactive media, making it a valuable credential in the field of extended reality.

Required Courses (12 credit hours)

CYBR 332 - 3D Design and Modeling for XR **Credits:** 3
CYBR 365 - User Experience (UX) Design for Immersive Systems **Credits:** 3
CYBR 443 - Interactive Systems Design for Virtual Reality (VR) **Credits:** 3
CYBR 445 - Interactive Systems Design for Augmented Reality (AR) **Credits:** 3

Immersive Digital Media Design Undergraduate Certificate

The Immersive Digital Media Design Undergraduate Certificate is an intensive and hands-on program designed to immerse students in the exciting world of digital media and design. This certificate program, typically completed in one to two years, offers a comprehensive curriculum that blends theory with practical skills. Learners delve into a wide range of creative and technical topics, including graphic design, 3D modeling, animation, virtual reality (VR), augmented reality (AR), and interactive media.

Required Courses (12 credit hours)

CYBR 137 - Principles of Interactive Digital Storytelling **Credits:** 3
CYBR 163 - Fundamentals of Design Thinking **Credits:** 3
CYBR 210 - Interactive Media Development **Credits:** 3
CYBR 320 - Foundations of Interactive Narratives **Credits:** 3

Total hours required: 12

Industrial Automation Undergraduate Certificate

This program is designed for individuals seeking to enhance their skills in automation technologies that drive efficiency, safety, and productivity across various industries. Students will gain practical experience with cutting-edge automation tools and systems, including robotics, control systems, and data analytics. Our industry-relevant curriculum will explore key topics such as programmable logic controllers (PLCs), industrial networking, sensor technologies, and automated process control. Students will be well-prepared for roles in manufacturing, logistics, and process industries, where they can implement automation solutions to streamline operations, improve safety measures, and boost overall productivity.

Required Courses: 12 Credit Hours

ECET 304 - Electric Power and Devices **Credits:** 3
MET 382 - Industrial Instrumentation and Controls **Credits:** 3
MET 481 - Automated Manufacturing Systems II **Credits:** 3
RAS 385 - Advanced Programmable Logic Controllers **Credits:** 3

Electives: 6 Hours

Choose 6 hours from the following list.

ECET 301 - Circuits II **Credits:** 4
ECET 320 - Electronic Communication Systems **Credits:** 3
ECET 330 - Industrial Controls **Credits:** 4
ECET 335 - Industrial Control Topics **Credits:** 1
ECET 340 - Electronic Manufacturing **Credits:** 3
ECET 350 - Microprocessor Fundamentals **Credits:** 3
ECET 352 - Digital Circuits and Systems **Credits:** 3
ECET 354 - Microcontroller Applications **Credits:** 3
ECET 414 - Electromagnetic Applications **Credits:** 4
ECET 420 - Communication Circuits Design **Credits:** 3
ECET 421 - Telecommunication Systems **Credits:** 4
ECET 430 - Signals and Systems **Credits:** 3
ECET 450 - Digital Systems and Computer Architecture **Credits:** 4
ECET 499 - Advanced Topics in Electronic and Computer Engineering Technology **Credits:** 1-18
MET 382 - Industrial Instrumentation and Controls **Credits:** 3
MET 481 - Automated Manufacturing Systems II **Credits:** 3
RA 305 - Robotics Programming **Credits:** 3
RA 357 - Machine Vision **Credits:** 3
RA 444 - Integrated Robotics Studio **Credits:** 0-2
RAS 385 - Advanced Programmable Logic Controllers **Credits:** 3
MET 314 - Finite Element Analysis and Design Modeling **Credits:** 3
MET 325 - Additive Manufacturing **Credits:** 3
MET 333 - Advanced Material Science **Credits:** 3
MET 336 - Dynamics of Machines **Credits:** 3
MET 346 - Elements of Mechanisms **Credits:** 3
MET 353 - Fluid Mechanics **Credits:** 3
MET 365 - Machine Design Technology II **Credits:** 3
MET 381 - Quality Control **Credits:** 3
MET 410 - Managerial and Project Economics **Credits:** 3
MET 460 - Tool Design for Manufacturing **Credits:** 3
MET 471 - Thermodynamics and Heat Transfer **Credits:** 4
MET 499 - Advanced Topics in Mechanical Engineering Technology **Credits:** 1-18

Total Hours Required: 18

Industrial Robotics and Automation Undergraduate Certificate

The Industrial Robotics and Automation Certificate prepares students for careers in advanced manufacturing and automation by providing hands-on experience and technical knowledge in robot systems and industrial control. This program emphasizes the integration of robotics, programming, and machine vision into automated manufacturing environments.

Required Courses: (13 credit hours)

MET 230 - Automated Manufacturing Systems I **Credits:** 3

MET 240 - Industrial Robotics Laboratory **Credits:** 2
RA 305 - Robotics Programming **Credits:** 3
RAS 358 - Industrial Inspection Systems **Credits:** 2
RAS 385 - Advanced Programmable Logic Controllers **Credits:** 3

Total Hours Required: 13

Interactive 3D Application Design Undergraduate Certificate

The Interactive 3D Application Design Undergraduate Certificate offers a specialized curriculum focusing on the creation of immersive and interactive 3D applications. Students gain hands-on experience in 3D modeling, animation, and game design. They learn to develop interactive experiences for various platforms, including virtual reality and augmented reality. Graduates are equipped with the skills needed for careers in game development, simulation design, or interactive media production, making this certificate a valuable credential for those pursuing a career in the exciting world of 3D application design.

Required Courses (15 credit hours)

CYBR 310 - 3D Animation and Asset Production for XR **Credits:** 3
CYBR 322 - Multi-platform Interactive Media Design **Credits:** 3
CYBR 330 - Interactive Game and Audio Design **Credits:** 3
CYBR 332 - 3D Design and Modeling for XR **Credits:** 3
CYBR 360 - Foundations of Game Engine Design and Development **Credits:** 3

Total hours required: 15

Robotics Design and Fabrication Undergraduate Certificate

The Robotics Design and Fabrication Certificate provides hands-on training and foundational knowledge in the essential areas of robot system development. Students gain expertise in designing and building robot systems by integrating mechanical, electrical, and digital components. This certificate emphasizes practical skills in power systems, advanced manufacturing techniques, and electronics assembly while fostering creativity in robot design and fabrication.

Required Courses: (13 Credit Hours)

ECET 340 - Electronic Manufacturing **Credits:** 3
RAS 225 - Robot Power Systems **Credits:** 3
RAS 335 - Digital Manufacturing **Credits:** 3
RAS 348 - Mobile Robotics Fabrication Studio **Credits:** 1
RAS 415 - Robot Design and Kinematics **Credits:** 3

Total Hours Required: 13

Spatial Computing Design Undergraduate Certificate

The Spatial Computing Design Undergraduate Certificate is a focused program that empowers students with the skills to develop applications and software for spatial computing environments, such as augmented reality and virtual reality. Through hands-on

training, students learn to code for immersive experiences and work with cutting-edge technology. Graduates are well-prepared for careers as spatial computing developers and programmers, making this certificate a valuable credential in the rapidly growing field of spatial computing.

Required Courses (12 credit hours)

CYBR 250 - Hardware and Network Fundamentals **Credits:** 3
CYBR 366 - Cyber Security Operations **Credits:** 3
CYBR 457 - Intelligent Spatial Computing Systems **Credits:** 3
CYBR 459 - Real-time Computing Systems **Credits:** 3

Total hours required: 12

Other Program Choices

Applied Business (AS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
BUS 110 - Introduction to Business	3		
COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 15			
Semester 2			
BUS 251 - Financial Accounting	3		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
ENGL 200 - Expository Writing II	3	**KSC 010**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Natural & Physical Sciences Requirement	4	**KSC 040**	
Total Credits: 16			

Second Year			
Semester 1			
BUS 252 - Managerial Accounting	3		
BUS 315 - Supervisory Management	3		
BUS 366 - Management with Information Technology	3		
ENGL 302 - Technical Writing	3		
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
Business Elective	3		
Business Elective	3		
Business Elective	3		
Arts & Humanities Requirement	3	**KSC 060**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Total Program Hours: 61			

Applied Business and Technology - Applied Business (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
BUS 110 - Introduction to Business	3		
COMM 106 - Public Speaking I	3	**KSC 020**	

ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 15			
Semester 2			
BUS 251 - Financial Accounting	3		
Social & Behavioral Science Requirement	3	**KSC 050**	
ENGL 200 - Expository Writing II	3	**KSC 010**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Natural & Physical Sciences Requirement - with Lab	4	**KSC 040**	
Total Credits: 16			
Second Year			
Semester 1			
BUS 252 - Managerial Accounting	3		
BUS 315 - Supervisory Management	3		
BUS 366 - Management with Information Technology	3		
ENGL 302 - Technical Writing	3		
Arts & Humanities Requirement	3	**KSC 060**	
Computer Elective	3		
Total Credits: 18			
Semester 2			
BUS 400 - Marketing Techniques and Applications	3		

BUS 420 - Management Perspectives	3		
ECON 120 - Principles of Microeconomics	3		
Arts & Humanities Requirement	3	**KSC 060**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Third Year			
Semester 1			
BUS 390 - Foundations of Business Law	3		
MATH 205 - General Calculus	3		
Area of Concentration	5		
Natural Science Elective	3		
Total Credits: 14			
Semester 2			
STAT 225 - Introduction to Statistics	3		
Communication Elective - 300 level or higher	3		
Area of Concentration	6		
Area of Concentration -300 level or higher	3		
Total Credits: 15			
Fourth Year			
Semester 1			
BUS 450 - Integrated Finance	3		
Business Elective - 300 level or higher	6		

Area of Concentration	6		
Total Credits: 15			
Semester 2			
BUS 520 - Integrated Technology Management Capstone	3		
Area of Concentration - 300 level or higher	9		
Total Credits: 12			
Total Program Hours: 120			

Cyber Systems Design & Dynamics - Immersive Systems Design (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
MATH 100 - College Algebra	3	**KSC 030**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
CYBR 103 - Computing Principles	3		
MLAS 100 - Survey of Machine Learning and Autonomous Systems	3		
CYBR 137 - Principles of Interactive Digital Storytelling	3		
Total Credits: 15			
Semester 2			
MATH 150 - Plane Trigonometry	3		
COMM 106 - Public Speaking I	3	**KSC 020**	
CYBR 163 - Fundamentals of Design Thinking	3		

CYBR 180 - Introduction to Database Systems	3		
CYBR 247 - Programming I	3		
Total Credits: 15			
Second Year			
Semester I			
MATH 220 - Analytic Geometry and Calculus I	4		
PHYS 113 - General Physics I	4		
CYBR 335 - Programming II	3		
CYBR 210 - Interactive Media Development **OR**	3		
MLAS 200 - Introduction to Automata and Cybernetic Systems Theory	3		
Total Credits: 14			
Semester 2			
ENGL 200 - Expository Writing II	3	**KSC 010**	
CYBR 250 - Hardware and Network Fundamentals	3		
CYBR 280 - Applied Mathematics for Cyber Systems	3		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 3 (For ISD Option Students Only)			
CYBR 301 - Immersive COOP Studio I	3		
Total Credits: 3			

Third Year			
Semester 1			
STAT 225 - Introduction to Statistics	3		
ENGL 302 - Technical Writing	3		
Social and Behavioral Sciences Requirement	3	**KSC 050**	
CYBR 360 - Foundations of Game Engine Design and Development	3		
Immersive Systems Design Elective	3		
Total Credits: 15			
Semester 2			
COT 480 - Professional Conduct, Ethics, and Analysis	3		
Immersive Systems Design Elective	3		
Immersive Systems Design Elective	3		
Arts & Humanities Requirement	3	**KSC 060**	
300+ Business Elective	3		
Total Credits: 15			
Semester 3			
CYBR 401 – Immersive COOP Studio II	3		
Total Credits: 3			
Fourth Year			
Semester 1			
CYBR 495 – Immersive Cyber Systems Capstone I	3		
Immersive Systems Design Elective	3		

Immersive Systems Design Elective	3		
Natural & Physical Science Requirement	4	**KSC 040**	
Total Credits: 13			
Semester 2			
CYBR 497 – Immersive Cyber Systems Capstone II	3		
Immersive Systems Design Elective	3		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 12			
Total Program Hours: 120			

Cyber Systems Design & Dynamics - Machine Learning & Autonomous Systems (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
MATH 100 - College Algebra	3	**KSC 030**
ENGL 100 - Expository Writing I	3	**KSC 010**
CYBR 103 - Computing Principles	3	
MLAS 100 - Survey of Machine Learning and Autonomous Systems	3	
CYBR 137 - Principles of Interactive Digital Storytelling	3	
Total Credits: 15		
Semester 2		

MATH 150 - Plane Trigonometry	3	
COMM 106 - Public Speaking I	3	**KSC 020**
CYBR 163 - Fundamentals of Design Thinking	3	
CYBR 180 - Introduction to Database Systems	3	
CYBR 247 - Programming I	3	
Total Credits: 15		
Second Year		
Semester I		
MATH 220 - Analytic Geometry and Calculus I	4	
PHYS 113 - General Physics I	4	
CYBR 335 - Programming II	3	
MLAS 200 - Introduction to Automata and Cybernetic Systems Theory	3	
Total Credits: 14		
Semester 2		
ENGL 200 - Expository Writing II	3	**KSC 010**
CYBR 250 - Hardware and Network Fundamentals	3	
CYBR 280 - Applied Mathematics for Cyber Systems	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Semester 3		
MLAS 350 - Data Structures for Machine Learning	3	

Total Credits: 3		
Third Year		
Semester 1		
STAT 225 - Introduction to Statistics	3	
ENGL 302 - Technical Writing	3	
Social and Behavioral Sciences Requirement	3	**KSC 050**
ETB 310 - Applied Data Analysis and Tools	3	
MLAS 390 - Unsupervised Learning in Autonomous Systems	3	
Total Credits: 15		
Semester 2		
COT 480 - Professional Conduct, Ethics, and Analysis	3	
MLAS 400 - Supervised learning in Autonomous Systems	3	
MLAS 410 - Natural Language Processing	3	
Arts & Humanities Requirement	3	**KSC 060**
300+ Business Elective	3	
Total Credits: 15		
Semester 3		
STAT 705 - Regression and Analysis of Variance	3	
Total Credits: 3		
Fourth Year		
Semester 1		

MLAS 412 - Deep Learning	3	
MLAS 500 - Reinforcement Learning in Autonomous Systems	3	
STAT 730 - Multivariate Statistical Methods	3	
Natural & Physical Science Requirement	4	**KSC 040**
Total Hours: 13		
Semester 2		
MLAS 501 - Artificial Intelligence Studio	3-6	
MLAS 502 - Autonomous Systems Senior Capstone	6	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Hours: 12		
Total Program Hours: 120		

Engineering Technology - Electronic and Computer Engineering Technology (AS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
Arts & Humanities Requirement	3	**KSC 060**	
ECET 100 - Basic Electronics	3		
ECET 250 - Digital Logic	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
Total Credits: 15			

Semester 2			
ECET 101 - Circuits I	4		
MATH 150 - Plane Trigonometry	3		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
COMM 106 - Public Speaking I	3	**KSC 020**	
Total Credits: 16			
Second Year			
Semester 1			
ECET 220 - Semiconductor Electronics	4		
ECET 301 - Circuits II	4		
PHYS 113 - General Physics I	4	**KSC 040**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 15			
Semester 2			
ECET 350 - Microprocessor Fundamentals	3		
ECET 335 - Industrial Control Topics	1		
Arts & Humanities Requirement	3	**KSC 060**	
ENGL 200 - Expository Writing II	3	**KSC 010**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Restricted Elective: Choose From the List Below:	3		
CYBR 250 - Hardware and Network Fundamentals	[3]		

ECET 340 - Electronic Manufacturing	[3]		
MET 382 - Industrial Instrumentation and Controls	[3]		
Total Credits: 17			
Total Program Hours: 63			

Engineering Technology - Electronic and Computer Engineering Technology (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ECET 100 - Basic Electronics	3		
ECET 250 - Digital Logic	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
CYBR 250 - Hardware and Network Fundamentals	3		
COMM 106 - Public Speaking I	3	**KSC 020**	
ECET 101 - Circuits I	4		
Free Elective	3		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 16			

Second Year			
Semester 1			
CMST 302 - Applications in C Programming for Engineering Technology	3		
ECET 220 - Semiconductor Electronics	4		
ECET 301 - Circuits II	4		
Social & Behavioral Science Requirement	3	**KSC 050**	
Free Elective	3		
Total Credits: 17			
Semester 2			
ECET 335 - Industrial Control Topics	1		
ECET 340 - Electronic Manufacturing	3		
ECET 350 - Microprocessor Fundamentals	3		
ENGL 200 - Expository Writing II	3	**KSC 010**	
MET 382 - Industrial Instrumentation and Controls	3		
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 16			
Third Year			
Semester 1			
AIT 301 - Advanced Technical Mathematics	3		
ECET 304 - Electric Power and Devices	3		
ECET 352 - Digital Circuits and Systems **OR**	3		
ECET 354 - Microcontroller Applications	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	

Natural & Physical Sciences Requirement - with Lab	4	**KSC 040**	
Total Credits: 16			
Semester 2			
Free Elective	4		
ECET 320 - Electronic Communication Systems	3		
Free Elective	3		
Free Elective	4		
Total Credits: 14			
Fourth Year			
Semester 1			
ECET 430 - Signals and Systems	3		
ECET 450 - Digital Systems and Computer Architecture	4		
ECET 480 - Electronic Design I	1		
Free Elective	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 14			
Semester 2			
ECET 420 - Communication Circuits Design **OR**	3		
ETB 420 - Unmanned Communication Circuits	3		
ECET 481 - Electronic Design II	2		
Technical Electives	6		
AIT 370 - Technology Project Management	3		

Total Credits: 14			
Total Program Hours: 122			

Engineering Technology - Mechanical Engineering Technology (AS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
MET 111 - Technical Graphics	3		
MET 121 - Manufacturing Methods	3		
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
ECET 100 - Basic Electronics	3		
MATH 150 - Plane Trigonometry	3		
MET 117 - Mechanical Modeling and Detailing	3		
MET 125 - Computer-Numerical-Controlled Machine Processes	2		
Arts & Humanities Requirement	3	**KSC 060**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 17			
Second Year			

Semester 1			
COMM 106 - Public Speaking I	3	**KSC 020**	
MET 211 - Statics	3		
PHYS 113 - General Physics I	4	**KSC 040**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Semester 2			
MET 245 - Material Strength and Testing	3		
MET 264 - Machine Design Technology I	4		
MET 230 - Automated Manufacturing Systems I	3		
ENGL 200 - Expository Writing II	3	**KSC 010**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Total Program Hours: 64			

Engineering Technology - Mechanical Engineering Technology (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
MET 121 - Manufacturing Methods	3		

Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
MATH 150 - Plane Trigonometry	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
ECET 100 - Basic Electronics	3		
MET 117 - Mechanical Modeling and Detailing	3		
MET 125 - Computer-Numerical-Controlled Machine Processes	2		
Total Credits: 14			
Second Year			
Semester 1			
COMM 106 - Public Speaking I	3	**KSC 020**	
MATH 220 - Analytic Geometry and Calculus I	4		
MET 211 - Statics	3		
MET 252 - Fluid Power Technology	3		
PHYS 113 - General Physics I	4		
Total Credits: 17			
Semester 2			
MET 230 - Automated Manufacturing Systems I	3		
MET 231 - Physical Materials and Metallurgy	3		
MET 245 - Material Strength and Testing	3		
MET 264 - Machine Design Technology I	4		

Natural and Physical Sciences Requirement	4	**KSC 040**	
Total Credits: 17			
Third Year			
Semester 1			
ECET 304 - Electric Power and Devices	3		
ETB 310 - Applied Data Analysis and Tools	3		
MET 314 - Finite Element Analysis and Design Modeling	3		
MET 336 - Dynamics of Machines	3		
MET 365 - Machine Design Technology II	3		
Total Credits: 15			
Semester 2			
ENGL 200 - Expository Writing II	3	**KSC 010**	
MET 346 - Elements of Mechanisms	3		
MET 353 - Fluid Mechanics	3		
MET 382 - Industrial Instrumentation and Controls	3		
Technical Elective - 300+	3		
Total Credits: 15			
Fourth Year			
Semester 1			
MET 462 - Senior Design Project I	1		
MET 481 - Automated Manufacturing Systems II	3		
Arts & Humanities Requirement	3	**KSC 060**	

Social & Behavioral Sciences Requirement	3	**KSC 050**
Computer Elective - 300+	3	
Total Credits: 13		
Semester 2		
ENGL 302 - Technical Writing	3	
MET 464 - Senior Design Project II	2	
MET 471 - Thermodynamics and Heat Transfer	4	
Technical Elective - 300+	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 15		
Total Program Hours: 121		

Engineering Technology - Robotics and Automation (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		
CYBR 180 - Introduction to Database Systems	3	
ECET 100 - Basic Electronics	3	
ECET 250 - Digital Logic	3	
MATH 100 - College Algebra	3	**KSC 030**
MET 121 - Manufacturing Methods	3	
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 18		

Semester 2			
COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 150 - Plane Trigonometry	3		
MET 117 - Mechanical Modeling and Detailing	3		
MET 230 - Automated Manufacturing Systems I	3		
Total Credits: 15			
Second Year			
Semester 1			
CMST 302 - Applications in C Programming for Engineering Technology	3		
MATH 220 - Analytic Geometry and Calculus I	4		
MET 211 - Statics	3		
PHYS 113 - General Physics I	4		
Total Credits: 14			
Semester 2			
ECET 350 - Microprocessor Fundamentals	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
MET 245 - Material Strength and Testing	3		
MET 264 - Machine Design Technology I	4		
Total Credits: 13			
Third Year			
Semester 1			

ECET 304 - Electric Power and Devices	3		
ECET 352 - Digital Circuits and Systems **OR**	3		
ECET 354 - Microcontroller Applications	3		
ETB 310 - Applied Data Analysis and Tools	3		
ENGL 200 - Expository Writing II	3	**KSC 010**	
MET 240 - Industrial Robotics Laboratory	2		
Social & Behavioral Sciences Requirement	3	KSC **050**	
Total Credits: 17			
Semester 2			
RA 305 - Robotics Programming	3		
COT 301 - Six Sigma Analysis and Problem Solving I	1		
RAS 385 - Advanced Programmable Logic Controllers	3		
MET 382 - Industrial Instrumentation and Controls	3		
Natural and Physical Scienced Requirement	4	**KSC 040**	
Total Credits: 14			
Fourth Year			
Semester 1			
COT 302 - Six Sigma Analysis and Problem Solving II	1		
ENGL 302 - Technical Writing	3		
ETB 482 - Senior Design Project I	1		
MET 336 - Dynamics of Machines	3		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Technical Elective - 300+	4		

Total Credits: 15			
Semester 2			
RA 357 - Machine Vision	3		
ETB 483 - Senior Design Project II	1-3		
Arts & Humanities Requirement	3	**KSC 060**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Technical Elective - 300+	3		
Total Credits: 14			
Total Program Hours: 120			

Engineering Technology - Uncrewed Aircraft Systems (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ECET 100 - Basic Electronics	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
COMM 106 - Public Speaking I	3	**KSC 020**	
ECET 101 - Circuits I	4		

MATH 150 - Plane Trigonometry	3		
UAS 270 - Introduction to UAS	3		
Total Credits: 13			
Second Year			
Semester 1			
ECET 250 - Digital Logic	3		
ECET 301 - Circuits II	4		
MATH 220 - Analytic Geometry and Calculus I	4		
ECET 220 - Semiconductor Electronics	4		
Total Credits: 15			
Semester 2			
PHYS 113 - General Physics I	4	**KSC 040**	
Restricted Elective	3		
Arts & Humanities Requirement	3	**KSC 060**	
CYBR 250 - Hardware and Network Fundamentals	3		
ENGL 200 - Expository Writing II	3	**KSC 010**	
Total Credits: 16			
Third Year			
Semester 1			
AVT 317 - Composites I	3		
MET 211 - Statics	3		
MET 336 - Dynamics of Machines	3		

UAS 280 - Multi-Rotor Construction Lab	2	
Technical Elective	2	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Credits: 16		
Semester 2		
ECET 320 - Electronic Communication Systems	3	
MET 245 - Material Strength and Testing	3	
UAS 465 - Fixed-Wing Construction Lab and Autopilot Integration	3	
Technical Elective - 300+	2	
Natural and Physical Sciences Requirement	4	
Total Credits: 15		
Fourth Year		
Semester 1		
AVT 450 - Aviation Safety Management	3	
CMST 302 - Applications in C Programming for Engineering Technology	3	
ETB 480 - UAS Senior Design I	1	
UAS 300 - UAS Powerplant Fundamentals	3	
Restricted Electives	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Semester 2		
ENGL 302 - Technical Writing	3	

ETB 481 - UAS Senior Design II	2		
Technical Elective - 300+	3		
Technical Elective - 300+	3		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 14			
Total Program Hours: 120			

Engineering Technology - Web Development Technology (AS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
CMST 135 - Web Fundamentals	3		
MATH 100 - College Algebra	3	**KSC 030**	
Arts and Humanities Requirement	3	**KSC 060**	
CYBR 103 - Computing Principles	3		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Semester 2			
CYBR 247 - Programming I	3		
CYBR 250 - Hardware and Network Fundamentals	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			

Second Year			
Semester 1			
CYBR 335 - Programming II	3		
COMM 106 - Public Speaking I	3	**KSC 020**	
DIGME 137 - Fundamentals of Visual Communication	3		
CYBR 180 - Introduction to Database Systems	3		
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
CMST 332 - Web Development Project	3		
ENGL 200 - Expository Writing II	3	**KSC 010**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Natural and Physical Science Requirement	4	**KSC 040**	
Choose One Of The Following:	3		
CMST 252 - System and Software Fundamentals	[3]		
CYBR 163 - Fundamentals of Design Thinking	[3]		
Total Credits: 16			
Total Program Hours: 61			

Aviation

Tysen Pina, Head

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The Aviation Department offers a comprehensive range of aviation study opportunities offering bachelor degrees options, Aviation Management, Aviation Maintenance Management, Professional Aviation, Professional Pilot, and Uncrewed Aircraft Systems; as well as certificates in Airframe and Powerplant, Composite Repair, and Uncrewed Aircraft Systems, Aviation Electronics Technology, in addition to a minor in aviation safety and uncrewed aircraft systems.

Associate of Applied Science

Aviation Maintenance (AAS)

The aviation maintenance management program prepares students to take the Federal Aviation Administration's Airframe and Powerplant certification. Lab space consists of more than 11,000 square feet to gain hands-on experience working on a real aircraft.

Aviation Requirements (50 credit hours)

AVM 101 - Introduction to Aircraft Materials and Tooling Standards **Credits:** 2
AVM 102 - Aviation Regulations, Compliance and Operations **Credits:** 2
AVM 103 - Intro to Aircraft Materials and Tooling Standards Laboratory **Credits:** 1
AVM 111 - Basic Aircraft Electricity **Credits:** 4
AVM 121 - Aircraft Drawings **Credits:** 2
AVM 141 - Aircraft Science **Credits:** 3
AVM 201 - Aircraft Metallic Primary Structures **Credits:** 3
AVM 203 - Aircraft Environmental and Fire Protection Systems **Credits:** 2
AVM 204 - Aircraft Environmental and Fire Protection Systems Laboratory **Credits:** 1
AVM 205 - Aircraft Landing Gear and Fluid Power Systems **Credits:** 3
AVM 207 - Aircraft Electrical Systems **Credits:** 3
AVM 216 - Aircraft Propulsion Drive Systems **Credits:** 3
AVM 301 - Advanced Reciprocating Powerplant Technology **Credits:** 3
AVM 303 - Introduction to Aircraft Composite Structures **Credits:** 3
AVM 304 - Aircraft Fuel Management and Metering Systems **Credits:** 3
AVM 305 - Aircraft Avionics and Instrument Systems **Credits:** 3
AVM 306 - Rotary and Fixed Wing Aircraft Design and Assembly **Credits:** 3
AVM 322 - Powerplant Operation and Troubleshooting **Credits:** 3
AVM 402 - Gas Turbine Powerplant Technology **Credits:** 3

Other Requirements (12 credit hours)

COMM 106 - Public Speaking I **Credits:** 3
KSC-020

ENGL 100 - Expository Writing I **Credits:** 3

KSC-010

KSC-030

MATH 100 - College Algebra **Credits:** 3

Select between: **Credits / Units:** 3

Arts & Humanities Requirement *KSC-060* **Credits / Units:** 3

Social & Behaviroral Sciences Requirement *KSC-050* **Credits / Units:** 3

Total Hours Required: 62

Professional Pilot (AAS)

This curriculum prepares students for a dynamic career in the aviation industry. Successful completion of this degree gives a solid academic base and prepares the student for lifelong learning.
This program requires significant time and financial commitment. Flight training costs are additional, above the standard tuition, books, and supplies. Individuals wanting to enroll in this degree must meet the selective admissions requirements for any flight training provided by KSU.

Fall 1st Semester (14 Credit hours)

AVT 100 - Introduction to Aviation **Credits:** 3

MATH 100 - College Algebra **Credits:** 3

PPIL 111 - Private Pilot **Credits:** 4

PPIL 113 - Private Pilot Flight Lab **Credits:** 1

Humanities/Social Science/Business Elective **Credits:** 3

Spring 2nd Semester (16 credit hours)

AVT 242 - Aviation Meteorology **Credits:** 3

ENGL 100 - Expository Writing I **Credits:** 3

MATH 150 - Plane Trigonometry **Credits:** 3

PPIL 112 - Professional Instrument Pilot **Credits:** 3

PPIL 114 - Professional Instrument Pilot Flight Lab **Credits:** 1

PSYCH 110 - General Psychology **Credits:** 3

Fall 3rd Semester (15 credit hours)

AVT 386 - Aerodynamics **Credits:** 3

COMM 106 - Public Speaking I **Credits:** 3

PHYS 113 - General Physics I **Credits:** 4

PPIL 211 - Professional Commercial Pilot **Credits:** 3

PPIL 212 - Professional Commercial Pilot Flight Lab I **Credits:** 2

Spring 4th Semester (15 credit hours)

AVT 340 - Human Factors in Aviation **Credits:** 3

PPIL 210 - Aviation Safety **Credits:** 3

PPIL 213 - Professional Commercial Pilot Flight Lab II **Credits:** 2
PPIL 262 - Multi-Engine Ground School **Credits:** 1
PPIL 263 - Multi-Engine Flight Lab **Credits:** 1
Aviation Elective **Credits:** 2
Economics Elective **Credits:** 3

Total credit hours required: 60

Bachelor of Science

Aeronautical Technology - Aviation Maintenance Management (BS)

You'll be responsible for maintaining and troubleshooting on a G1000 simulator, as well as building, troubleshooting and inspecting the wiring harnesses. You'll also have the opportunity to build, repair and modify aircraft structures and systems. Our program provides you the ability to learn on actual aircraft, with a fleet of more than 10 operable aircraft ranging from a Bell helicopter to a cabin-class, turbine-powered King Air 90 available in the lab. In addition to the bachelor's degree, our avionics electronics technology certificate is National Center for Aircraft Technician Training, or NCATT, certified and prepares you to pass the NCATT Aviation Electronics Technician certification.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: (25 credit hours)

BUS/COT Requirement: (12 credit hours)

BUS 315 - Supervisory Management **Credits:** 3
BUS 366 - Management with Information Technology **Credits:** 3
BUS 420 - Management Perspectives **Credits:** 3
COT 480 - Professional Conduct, Ethics, and Analysis **Credits:** 3

English Requirements: (3 credit hours)

ENGL 302 - Technical Writing **Credits:** 3

Math Requirement: (3 credit hours)

If not met through K-State Core requirements, MATH 100 is required.

MATH 100 - College Algebra **Credits:** 3
KSC-030
MATH 150 - Plane Trigonometry **Credits:** 3

Physics Requirement: (4 credit hours)

PHYS 113 - General Physics I **Credits:** 4

Statistics Requirement: (3 credit hours)

STAT 225 - Introduction to Statistics **Credits:** 3

Professional Studies: (58 credit hours)

Professional Studies

AVM 101 - Introduction to Aircraft Materials and Tooling Standards **Credits:** 2
AVM 102 - Aviation Regulations, Compliance and Operations **Credits:** 2
AVM 103 - Intro to Aircraft Materials and Tooling Standards Laboratory **Credits:** 1
AVM 111 - Basic Aircraft Electricity **Credits:** 4
AVM 121 - Aircraft Drawings **Credits:** 2
AVM 201 - Aircraft Metallic Primary Structures **Credits:** 3
AVM 203 - Aircraft Environmental and Fire Protection Systems **Credits:** 2
AVM 204 - Aircraft Environmental and Fire Protection Systems Laboratory **Credits:** 1
AVM 205 - Aircraft Landing Gear and Fluid Power Systems **Credits:** 3
AVM 207 - Aircraft Electrical Systems **Credits:** 3
AVM 216 - Aircraft Propulsion Drive Systems **Credits:** 3
AVM 301 - Advanced Reciprocating Powerplant Technology **Credits:** 3
AVM 303 - Introduction to Aircraft Composite Structures **Credits:** 3
AVM 304 - Aircraft Fuel Management and Metering Systems **Credits:** 3
AVM 305 - Aircraft Avionics and Instrument Systems **Credits:** 3
AVM 306 - Rotary and Fixed Wing Aircraft Design and Assembly **Credits:** 3
AVM 322 - Powerplant Operation and Troubleshooting **Credits:** 3
AVM 402 - Gas Turbine Powerplant Technology **Credits:** 3
AVT 100 - Introduction to Aviation **Credits:** 3
AVT 340 - Human Factors in Aviation **Credits:** 3
AVT 482 - Aviation Ethics and Leadership **Credits:** 3

Restricted Electives Requirement: (3 credit hours)

Choose from the list below:

BUS 252 - Managerial Accounting **Credits:** 3
BUS 390 - Foundations of Business Law **Credits:** 3
BUS 400 - Marketing Techniques and Applications **Credits:** 3

BUS 530 - Practices of Industrial and Labor Relations **Credits:** 3

Aviation Elective: (2 credit hours)

Aviation Elective **Credits:** 2

Total Hours Required for Graduation: 120

Aeronautical Technology - Aviation Management (BS)

In the Bachelor's in aviation management degree option, students will learn from instructors who have real-world, professional experience and success in the working for airports across the country. The instructors in this degree will provide unique perspectives that allow students an insight in to the busy world of operating an airport. Classes will integrate real-world airport challenges and present students with the opportunity to not only learn about proven techniques, but also test their theories in helping to solve industry challenges.

Students have the option of learning in-person or online

Kansas State University Core: 34-36 Credit Hours

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General Education: K-State Core

Program Requirements: (16 credit hours)

English Requirement: (3 credit hours)

ENGL 302 - Technical Writing **Credits:** 3

Math Requirement: (3 credit hours)

If not met through K-State Core requirements, MATH 100 is required.

MATH 100 - College Algebra **Credits:** 3
KSC-030
MATH 150 - Plane Trigonometry **Credits:** 3

Physics Requirement: (4 credit hours)

PHYS 113 - General Physics I **Credits:** 4

Psychology Requirement: (3 credit hours)

PSYCH 110 - General Psychology **Credits:** 3

Statistics Requirement: (3 credit hours)

STAT 225 - Introduction to Statistics **Credits:** 3

Professional Studies

Professional Studies: (70 credit hours)

AVM 102 - Aviation Regulations, Compliance and Operations **Credits:** 2
AVT 100 - Introduction to Aviation **Credits:** 3
AVT 242 - Aviation Meteorology **Credits:** 3
AVT 250 - Safety and Security of Airport Ground Operations **Credits:** 3
AVT 340 - Human Factors in Aviation **Credits:** 3
AVT 361 - Airport Environmental Studies **Credits:** 3
AVT 380 - Airport Operations **Credits:** 3
AVT 440 - Air Carrier Operations **Credits:** 3
AVT 445 - Aviation Law **Credits:** 3
AVT 450 - Aviation Safety Management **Credits:** 3
AVT 461 - Airport Management **Credits:** 3
AVT 480 - Airport Global Networks **Credits:** 3
AVT 482 - Aviation Ethics and Leadership **Credits:** 3
BUS 110 - Introduction to Business **Credits:** 3
BUS 251 - Financial Accounting **Credits:** 3
BUS 315 - Supervisory Management **Credits:** 3
BUS 366 - Management with Information Technology **Credits:** 3
BUS 400 - Marketing Techniques and Applications **Credits:** 3
BUS 410 - Managerial and Project Economics **Credits:** 3
BUS 420 - Management Perspectives **Credits:** 3
BUS 531 - Strategic Human Resource Management **Credits:** 3
COT 480 - Professional Conduct, Ethics, and Analysis **Credits:** 3
PAV 497 - Senior Capstone **Credits:** 3
Business Elective **Credits:** 2

Total Hours Required for Graduation: 120

Aeronautical Technology - Professional Aviation (BS)

The Professional Aviation option, Bachelor of Science in Aeronautical Technology provides students with knowledge and skills designed to enhance their employability and upward mobility in the aviation industry. This degree option has been specifically designed as a "degree completion program," allowing undergraduate students who have completed an associate's degree or

certificate, or have a substantial number of completed courses in aviation, to continue their education and receive a bachelor of science degree. Courses can be taken online or face-to-face.

Graduates are prepared for a variety of aviation careers including supervisory and management roles in many aviation settings.

The Bachelor of Science in Aeronautical Technology, Professional Aviation option allows students transferring from two-year institutions to apply up to 35 credit-hours of their technical aviation specialty, as well as general education courses, for a total of 60 credit-hours transferrable to Kansas State.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements (31 credit hours)

If not met through K-State Core requirements, MATH 100 is required.

BUS 315 - Supervisory Management **Credits:** 3
BUS 400 - Marketing Techniques and Applications **Credits:** 3
BUS 410 - Managerial and Project Economics **Credits:** 3
BUS 420 - Management Perspectives **Credits:** 3
BUS 530 - Practices of Industrial and Labor Relations **Credits:** 3
COT 480 - Professional Conduct, Ethics, and Analysis **Credits:** 3
COT 405 - Methods of Problem Solving for Integrated Professional Studies **Credits:** 3
ENGL 302 - Technical Writing **Credits:** 3
MATH 100 - College Algebra **Credits:** 3
KSC-030
MATH 150 - Plane Trigonometry **Credits:** 3
PHYS 113 - General Physics I **Credits:** 4

Professional Studies (55 credit hours)

Basic Aviation **Credits:** 35
This block of courses includes course work normally taken during the first two years of an undergraduate program in aviation. Courses accepted for transfer to K-State must be academic college-level courses from an accredited institution.

AVT 440 - Air Carrier Operations **Credits:** 3
AVT 445 - Aviation Law **Credits:** 3
AVT 450 - Aviation Safety Management **Credits:** 3
AVT 497 - Senior Capstone **Credits:** 3
Aviation Electives **Credits:** 8 (at least 5 credits must be 300+level)

Total Hours Required for Graduation: 120

Aeronautical Technology - Professional Pilot (BS)

K-State Aerospace and Technology Campus's professional pilot program is the perfect place to begin your aviation journey. Boasting a premium fleet of 30+ aircraft and flight training devices and a large and active regional airport just steps away from the classroom, your education and experience will surpass the highest of expectations.

Our professional pilot curriculum does more than train pilots – students receive training above and beyond the Federal Aviation Administration's (FAA) minimum requirements, creating professionals that are confident to fly in all conditions, troubleshoot and solve problems, make ethical decisions, and exceed the expectations of the aviation industry. With the degree option's longstanding history at the university, K-State Aerospace and Technology Campus has turned people passionate about aviation into the best pilots in the skies.

K-State Salina's professional pilot degree option is FAA part 141 approved, allowing students to complete commercial pilot training in as little as 190 hours instead of 250 hours, for a bachelor's degree. The training also allows students to qualify for a Restricted Airline Transport Pilot Certificate (R-ATP) in as few as 1,000 hours with a bachelor's degree or 1250 hours with an associate degree. (Students are required to meet the minimum credits for R-ATP approved courses. Earning a degree does not equate to an automatic R-ATP.) The R-ATP can be beneficial to students by providing them with the ability to fly for the airlines earlier. Training and education are provided by highly qualified faculty and staff, with years of both industry and education experience.

This program requires significant time and financial commitment. Flight training costs are additional, above the standard tuition, books, and supplies.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Additional Requirements: 22 credit hours

If not met through K-State Core requirements, MATH 100 is required.

BUS 315 - Supervisory Management **Credits:** 3
BUS 400 - Marketing Techniques and Applications **Credits:** 3
COT 480 - Professional Conduct, Ethics, and Analysis **Credits:** 3
ENGL 302 - Technical Writing **Credits:** 3
MATH 100 - College Algebra **Credits:** 3
KSC-030
MATH 150 - Plane Trigonometry **Credits:** 3
PHYS 113 - General Physics I **Credits:** 4

STAT 225 - Introduction to Statistics **Credits:** 3

Professional Pilot Requirements: 55 credit hours

AVT 100 - Introduction to Aviation **Credits:** 3
PPIL 111 - Private Pilot **Credits:** 4
PPIL 112 - Professional Instrument Pilot **Credits:** 3
PPIL 113 - Private Pilot Flight Lab **Credits:** 1
PPIL 114 - Professional Instrument Pilot Flight Lab **Credits:** 1
PPIL 210 - Aviation Safety **Credits:** 3
PPIL 211 - Professional Commercial Pilot **Credits:** 3
PPIL 212 - Professional Commercial Pilot Flight Lab I **Credits:** 2
PPIL 213 - Professional Commercial Pilot Flight Lab II **Credits:** 2
AVT 242 - Aviation Meteorology **Credits:** 3
PPIL 262 - Multi-Engine Ground School **Credits:** 1
PPIL 263 - Multi-Engine Flight Lab **Credits:** 1
OR
PPIL 314 - Certified Flight Instructor Flight Lab **Credits:** 2
PPIL 310 - Fundamentals of Instruction/Advanced Ground Instructor Ground School **Credits:** 3
PPIL 311 - Certificated Flight Instructor-Airplane Ground School **Credits:** 3
PPIL 325 - Advanced Aircraft Systems **Credits:** 3
AVT 340 - Human Factors in Aviation **Credits:** 3
AVT 386 - Aerodynamics **Credits:** 3
PPIL 387 - Crew Resource Management I **Credits:** 3
AVT 440 - Air Carrier Operations **Credits:** 3
AVT 445 - Aviation Law **Credits:** 3
AVT 497 - Senior Capstone **Credits:** 3

Aviation Electives: 9-10 credit hours

*At least 4 credits of aviation electives must be upper division courses, 300 and above. Students wanting reduced ATP need 12 approved aviation elective credits.

AVT 240 - Introduction to Air Traffic Control **Credits:** 3
AVT 250 - Safety and Security of Airport Ground Operations **Credits:** 3
AVT 360 - Airport Law **Credits:** 3
AVT 361 - Airport Environmental Studies **Credits:** 3
AVT 420 - Aviation Accident Investigation **Credits:** 3
AVT 448 - Aviation Legislation **Credits:** 3
AVT 450 - Aviation Safety Management **Credits:** 3
AVT 451 - System Safety **Credits:** 3
PPIL 196 - VFR Pilot Proficiency Lab **Credits:** 1
PPIL 197 - IFR Pilot Proficiency Lab **Credits:** 1
PPIL 215 - Mountain Flying **Credits:** 1
PPIL 216 - Altitude Chamber **Credits:** 1
PPIL 221 - Preventive Maintenance **Credits:** 2
PPIL 290 - Multi-Engine Crew Coordination **Credits:** 1
PPIL 295 - Tailwheel Transition **Credits:** 1

PPIL 296 - Complex/High Performance Transition **Credits:** 1
PPIL 314 - Certified Flight Instructor Flight Lab **Credits:** 2
PPIL 379 - Turbine Transition **Credits:** 3
PPIL 385 - Airline Transport Pilot Rating **Credits:** 2
PPIL 396 - Introduction to Upset Training and Recovery **Credits:** 1
PPIL 416 - Crew Resource Management II **Credits:** 3
PPIL 482 - Certified Instrument Flight Instructor Ground School **Credits:** 1
PPIL 483 - Certified Instrument Flight Instructor Lab **Credits:** 1
PPIL 492 - Certified Multi-Engine Flight Instructor Ground School **Credits:** 1
PPIL 493 - Certified Multi-Engine Flight Instructor Lab **Credits:** 1

Total Hours Required for Graduation: 120

Aeronautical Technology - Uncrewed Aircraft Systems (BS)

Aeronautical Technology - Uncrewed Aircraft Systems

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements (13 Credit Hours)

BUS Requirement: (3 credit hours)

BUS 315 - Supervisory Management **Credits:** 3

ENGL Requirement: (3 Credit Hours)

ENGL 302 - Technical Writing **Credits:** 3

MATH Requirement: (3 credit hours)

If not met through K-State Core requirements, MATH 100 is required.

MATH 100 - College Algebra **Credits:** 3
KSC-030
MATH 150 - Plane Trigonometry **Credits:** 3

PHYS Requirement (4 Credit Hours)

PHYS 113 - General Physics I **Credits:** 4

Program

Professional Studies: (73 credit hours)

AAM 472 - Large Fixed-Wing Operations Flight Lab **Credits:** 2
AVT 100 - Introduction to Aviation **Credits:** 3
AVT 317 - Composites I **Credits:** 3
AVT 340 - Human Factors in Aviation **Credits:** 3
AVT 450 - Aviation Safety Management **Credits:** 3
UAS 114 - Remote Pilot Certification for UAS **Credits:** 2
UAS 115 - Introduction to Multi-Rotor Flight Lab **Credits:** 1
UAS 270 - Introduction to UAS **Credits:** 3
UAS 272 - UAS Safety Fundamentals **Credits:** 3
UAS 374 - Processing Remotely Sensed Data **Credits:** 3
UAS 280 - Multi-Rotor Construction Lab **Credits:** 2
UAS 300 - UAS Powerplant Fundamentals **Credits:** 3
UAS 312 - UAS Flight Instructor Ground School **Credits:** 3
UAS 314 - Multi-rotor Instructor Flight Lab **Credits:** 1
UAS 357 - Introduction to UAS Fixed-Wing Flight Lab **Credits:** 2
UAS 367 - Introduction to UAS Automated Fixed-Wing Flight Lab **Credits:** 3
UAS 387 - UAS Safety Applications **Credits:** 2
UAS 465 - Fixed-Wing Construction Lab and Autopilot Integration **Credits:** 3
UAS 471 - Advanced Fixed-Wing Operations Flight Lab **Credits:** 2
UAS 480 - UAS Senior Design Project I **Credits:** 1
UAS 481 - UAS Senior Design Project II **Credits:** 2
Approved Technical Electives **Credits:** 20
Aviation/Electronics/Computer/Internship **Credits:** 3 (3 credit hours must be 300+level)

Approved Technical Electives and Focus Areas

Composites Repair Focus Area

AVT 400 - Composites II **Credits:** 3
AVT 417 - Composites III **Credits:** 3
COT 495 - Advanced Industrial Internship **Credits:** 0-6
PAV 497 - Senior Capstone **Credits:** 3

UAS Data Analytics Certificate

UAS 475 - Data Acquisition and Post-processing **Credits:** 3
UAS 477 - Fundamentals of Thermography **Credits:** 3

UAS 478 - Fundamentals of LIDAR **Credits:** 3

Professional Pilot Focus Area

PPIL 111 - Private Pilot **Credits:** 4
PPIL 112 - Professional Instrument Pilot **Credits:** 3
PPIL 113 - Private Pilot Flight Lab **Credits:** 1
PPIL 114 - Professional Instrument Pilot Flight Lab **Credits:** 1
PPIL 211 - Professional Commercial Pilot **Credits:** 3
PPIL 212 - Professional Commercial Pilot Flight Lab I **Credits:** 2
PPIL 213 - Professional Commercial Pilot Flight Lab II **Credits:** 2

Aviation/Electronics/Computer/Internship Elective (3 credit hours)

AVM 300 - AVM 799
AVT 300 - AVT 799
CIS 300 - CIS 799
CMST 300- CMST 799
COT 495 Internship
ECET 300 - ECET 799

Total Hours Required for Graduation: 120

Minor

Aviation Safety Minor

The Aviation Safety minor is designed to provide students with a knowledge of practices and procedures used in establishing and maintaining an effective safety program and to promote a safety culture. Students completing all requirements for the Aviation Safety minor will receive official recognition in their academic records.

The Aviation Safety minor is available to students seeking and having earned any K-State bachelor or graduate degree. Students must have a minimum of a 2.5 K-State GPA to qualify for entry into the minor program. Fifteen credit hours of designated course work with a grade of C or better for these courses are needed to complete the minor.

Requirements for minor (15 credit hours)

Required courses (6 credit hours)

AVT 340 - Human Factors in Aviation **Credits:** 3
AVT 450 - Aviation Safety Management **Credits:** 3

Elective courses (9 credit hours)

AVT 250 - Safety and Security of Airport Ground Operations **Credits:** 3
AVT 420 - Aviation Accident Investigation **Credits:** 3
AVT 451 - System Safety **Credits:** 3

PPIL 387 - Crew Resource Management I **Credits:** 3

Uncrewed Aircraft Systems Minor

Minor in Uncrewed Aircraft Systems is offered Salina-Campus Based

Required Courses (12 credit hours)

Students must achieve a minimum GPA of 2.5 and a grade of "C" or better is required in all coursework.

Research Project or Internship (Minimum 2 hours; COT 495 or COT 497)

COT 495 - Advanced Industrial Internship **Credits:** 0-6
or
COT 497 - Undergraduate Research Experience **Credits:** 0-3
UAS 114 - Remote Pilot Certification for UAS **Credits:** 2
UAS 115 - Introduction to Multi-Rotor Flight Lab **Credits:** 1
UAS 270 - Introduction to UAS **Credits:** 3
UAS 272 - UAS Safety Fundamentals **Credits:** 3
UAS 374 - Processing Remotely Sensed Data **Credits:** 3

Elective Courses (6 credit hours)

AGRON 655 - Site Specific Agriculture **Credits:** 3
COT 295 - Introductory Industrial Internship **Credits:** 0-6
GEOG 508 - Geographic Information Systems I **Credits:** 4
GEOG 605 - Remote Sensing of the Environment **Credits:** 3
GEOG 705 - Thematic Remote Sensing **Credits:** 3
MC 469 - Drone Photography and Video **Credits:** 3
UAS 280 - Multi-Rotor Construction Lab **Credits:** 2
UAS 465 - Fixed-Wing Construction Lab and Autopilot Integration **Credits:** 3
UAS 475 - Data Acquisition and Post-processing **Credits:** 3

Total hours required: 18

Undergraduate Certificate

Airframe and Powerplant Review Undergraduate Certificate

The airframe and powerplant certificate program prepares students for evaluation by the Federal Aviation Administration to earn the mechanic certificate with airframe and powerplant ratings. Students who successfully complete the program will be awarded a certificate of completion.

Upon passing the FAA written, oral, and practical exams; graduates will be certified to practice as aviation maintenance technicians. Airframe and powerplant mechanics inspect, repair, modify, and maintain aircraft for manufacturers, commercial airlines, businesses, corporations, and general aviation operators.

Certification Requirements (12 credit hours)

AVMR 220 - Aviation Maintenance Review/General **Credits:** 4
AVMR 230 - Aviation Maintenance Review/Airframe **Credits:** 4
AVMR 250 - Aviation Maintenance Review/Powerplant **Credits:** 4

Aviation Electronics Technology Undergraduate Certificate

This certificate program provides the education and practical experience needed for careers in the rapidly growing avionics segment of the aviation maintenance industry. Topic coverage includes systems found in advanced aircraft, such as glass cockpits and other advanced avionics systems. Those completing the program will find applications for these skills in aircraft design, operation, maintenance, inspection, repair, and alteration.

This certificate program meets the standards set by the National Center for Aircraft Technician Training (NCATT). It gives students the opportunity to obtain the industry's new Aviation Electronics Technician (AET) certificate.

Required Courses (15-16 credit hours)

AVM 111 - Basic Aircraft Electricity **Credits:** 4
OR
ECET 100 - Basic Electronics **Credits:** 3
AVM 305 - Aircraft Avionics and Instrument Systems **Credits:** 3
AVT 327 - Avionics Repair **Credits:** 3
AVT 429 - Avionics Maintenance **Credits:** 3
AVT 430 - Advanced Avionics Installation **Credits:** 3

Notes

*Students with an FAA Airframe (A) Certificate may test out of these courses.

**Students with an FAA Airframe (A) Certificate or an FAA Private Pilot Certification may test out of this course

Total Hours Required for Graduation: 15-16

General Aviation Maintenance Concepts Undergraduate Certificate

This accelerated certificate program prepares students to take the FAA Aviation Mechanic General Knowledge Test after completing just four foundational courses (AMP 101–104). The curriculum introduces critical areas including maintenance regulations, technical drawings, aircraft structures and materials, tools and measuring equipment, and basic electrical theory. This program delivers FAA Part 147-aligned instruction and hands-on experience, providing a fast-track entry into the aviation maintenance industry or further training toward full certification.

Required Courses: (12 Credit Hours)

AMP 101 - Introduction to Aviation Regulations and Aircraft Drawings **Credits:** 3
AMP 102 - Aviation Math and Physics **Credits:** 3
AMP 103 - Concepts of Aircraft Materials and Tooling Standards **Credits:** 3

AMP 104 - Basic Aircraft Electricity and Ground Operations **Credits:** 3

Total Hours Required: 12

Introduction to UAS Technology Undergraduate Certificate

The Introduction to UAS Technology certificate provides a basic introduction to current UAS technologies. Students completing the certificate will be able to safely handle, operate, and repair both multi-rotor and fixed-wing UAS.

Required courses: (14 credit hours)

UAS 114 - Remote Pilot Certification for UAS **Credits:** 2
UAS 115 - Introduction to Multi-Rotor Flight Lab **Credits:** 1
UAS 270 - Introduction to UAS **Credits:** 3
UAS 272 - UAS Safety Fundamentals **Credits:** 3
UAS 275 - Small UAS Maintenance I **Credits:** 3
UAS 280 - Multi-Rotor Construction Lab **Credits:** 2

Total hours required: 14

Professional Pilot Undergraduate Certificate

This curriculum provides a foundation for work in the aviation industry. Individuals wanting to enroll in this certificate must meet the selective admissions requirements for any flight training provided by KSU.

Special Requirements

Admission requirements for this certificate are the same as required for any flight training at KSU Salina. Additional information is available at https://www.salina.k-state.edu/academics/degree-options/professional-pilot.

Required Core Courses (16 credit hours)

PPIL 111 - Private Pilot **Credits:** 4
PPIL 112 - Professional Instrument Pilot **Credits:** 3
PPIL 113 - Private Pilot Flight Lab **Credits:** 1
PPIL 114 - Professional Instrument Pilot Flight Lab **Credits:** 1
PPIL 211 - Professional Commercial Pilot **Credits:** 3
PPIL 212 - Professional Commercial Pilot Flight Lab I **Credits:** 2
PPIL 213 - Professional Commercial Pilot Flight Lab II **Credits:** 2

Total credit hours: 16

UAS Data Analytics Undergraduate Certificate

The UAS Data Analytics certificates provides an in-depth understanding of UAS data collection and processing. Students completing the certificate will learn about varying UAS sensors, obtain data, and post-process the collected data into meaningful and actionable products.

Required Courses: 12 credit hours

UAS 374 - Processing Remotely Sensed Data **Credits:** 3
UAS 475 - Data Acquisition and Post-processing **Credits:** 3
UAS 477 - Fundamentals of Thermography **Credits:** 3
UAS 478 - Fundamentals of LIDAR **Credits:** 3

Total Hours Required for Graduation: 12

Other Program Choices

Aeronautical Technology - Aviation Maintenance Management (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
AVM 101 - Introduction to Aircraft Materials and Tooling Standards	2		
AVM 102 - Aviation Regulations, Compliance and Operations	2		
AVM 103 - Intro to Aircraft Materials and Tooling Standards Laboratory	1		
AVM 111 - Basic Aircraft Electricity	4		
AVM 121 - Aircraft Drawings	2		
ENGL 100 - Expository Writing I	3	**KSC 010**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 17			
Semester 2			
AVM 201 - Aircraft Metallic Primary Structures	3		
AVM 203 - Aircraft Environmental and Fire Protection Systems	2		

AVM 204 - Aircraft Environmental and Fire Protection Systems Laboratory	1		
AVM 205 - Aircraft Landing Gear and Fluid Power Systems	3		
AVM 207 - Aircraft Electrical Systems	3		
COMM 106 - Public Speaking I	3	**KSC 020**	
MATH 100 - College Algebra	3	**KSC 030**	
Total Credits: 18			
Second Year			
Semester 1			
AVM 216 - Aircraft Propulsion Drive Systems	3		
AVM 303 - Introduction to Aircraft Composite Structures	3		
AVM 305 - Aircraft Avionics and Instrument Systems	3		
AVM 306 - Rotary and Fixed Wing Aircraft Design and Assembly	3		
MATH 150 - Plane Trigonometry	3		
Total Credits: 15			
Semester 2			
AVM 301 - Advanced Reciprocating Powerplant Technology	3		
AVM 304 - Aircraft Fuel Management and Metering Systems	3		
AVM 322 - Powerplant Operation and Troubleshooting	3		
AVM 402 - Gas Turbine Powerplant Technology	3		
Social & Behavorial Sciences Requirement	3	**KSC 050**	
Total Credits: 15			

Third Year			
Semester 1			
AVT 100 - Introduction to Aviation	3		
Free Elective (Institutionally Designated Area)	3	**KSC 070**	
Free Elective (Institutionally Designated Area)	3	**KSC 070**	
PHYS 113 - General Physics I	4	**KSC 040**	
Total Credits: 13			
Semester 2			
AVT 340 - Human Factors in Aviation	3		
BUS 315 - Supervisory Management	3		
BUS 366 - Management with Information Technology	3		
COT 480 - Professional Conduct, Ethics, and Analysis	3		
ENGL 200 - Expository Writing II	3	**KSC 010**	
Total Credits: 15			
Fourth Year			
Semester 1			
AVT 482 - Aviation Ethics and Leadership	3		
ENGL 302 - Technical Writing	3		
Social & Behavioral Sciences Elective	3	**KSC 050**	
STAT 225 - Introduction to Statistics	3		
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			

Total Credits: 15			
Semester 2			
BUS 420 - Management Perspectives	3		
Aviation Elective	2		
Natural & Physical Sciences Requirement - with Lab	4		
Restricted Elective	3		
Total Credits: 12			
Restricted Elective			
Choose 3 credit Hours			
BUS 252 - Managerial Accounting	3		
BUS 390 - Foundations of Business Law	3		
BUS 400 - Marketing Techniques and Applications	3		
BUS 530 - Practices of Industrial and Labor Relations	3		
Total Program Hours: 120			

Aeronautical Technology - Aviation Management (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
AVT 100 - Introduction to Aviation	3		
Free Elective (Institutionally Designated Area)	3	**KSC 070**	
ENGL 100 - Expository Writing I	3	**KSC 010**	

MATH 100 - College Algebra	3	**KSC 030**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
AVM 102 - Aviation Regulations, Compliance and Operations	2		
AVT 242 -Aviation Meteorology	3		
AVT 250 - Safety and Security of Airport Ground Operations	3		
BUS 110 - Introduction to Business	3		
Free Elective (Institutionally Designated Area)	3	**KSC 070**	
Total Credits: 14			
Semester 3			
COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 200 -Expository Writing II	3	**KSC 010**	
Total Credits: 6			
Second Year			
Semester 1			
AVT 340 - Human Factors in Aviation	3		
AVT 380 - Airport Operations	3		
BUS 315 -Supervisory Management	3		
MATH 150 -Plane Trigonometry	3		
Total Credits: 12			

Semester 2			
AVT 361 - Airport Environmental Studies	3		
BUS 251 - Financial Accounting	3		
Social & Behavioral Science Requirement	3	**KSC 050**	
ENGL 302 - Technical Writing	3		
Total Credits: 12			
Semester 3			
STAT 225 - Introduction to Statistics	3		
Total Credits: 3			
Third Year			
Semester 1			
AVT 440 - Air Carrier Operations	3		
AVT 461 - Airport Management	3		
BUS 366 - Management with Information Technology	3		
PSYCH 110 - General Psychology	3		
Social & Behavioral Science Requirement	3	**KSC 050**	
Total Credits: 15			
Semester 2			
AVT 450 - Aviation Safety Management	3		
AVT 480 - Airport Global Networks	3		
BUS 420 - Management Perspectives	3		
Natural & Physical Sciences - with Lab	4	**KSC 040**	

Business Elective	2		
Total Credits: 15			
Semester 3			
BUS 531 - Strategic Human Resource Management	3		
PHYS 113 - General Physics I	4		
Total Credits: 7			
Fourth Year			
Semester 1			
AVT 445 - Aviation Law	3		
AVT 482 - Aviation Ethics and Leadership	3		
BUS 400 - Marketing Techniques and Applications	3		
BUS 410 -Managerial and Project Economics	3		
Total Credits: 12			
Semester 2			
COT 480 - Professional Conduct, Ethics, and Analysis	3		
PAV 497 - Senior Capstone	3		
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 9			
Total Program Hours: 120			

Aeronautical Technology - Professional Aviation (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
Social & Behavioral Science Requirement	3	**KSC 050**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
MATH 150 - Plane Trigonometry	3		
Arts & Humanities Requirement	3	**KSC 060**	
Basic Aviation Electives	9		
Total Credits: 15			
Second Year			
Semester 1			
Basic Aviation Electives	9		
ENGL 200 - Expository Writing II	3	**KSC 010**	
Free Elective (Institutionally Designated Area)	3	**KSC 070**	
Total Credits: 15			
Semester 2			
PHYS 113 - General Physics I	4	**KSC 040**	
Social and Behavioral Science Requirement	3	**KSC 050**	

Basic Aviation Electives	9	
Total Credits: 16		
Third Year		
Semester 1		
Free Elective (Institutionally Designated Area)	3	**KSC 070**
BUS 315 - Supervisory Management	3	
COT 480 - Professional Conduct, Ethics, and Analysis	3	
Natural & Physical Science - with Lab	4	
ENGL 302 - Technical Writing	3	
Total Credits: 16		
Semester 2		
Aviation Elective	3	
AVT 440 - Air Carrier Operations	3	
BUS 400 – Marketing Techniques and Applications	3	
BUS 410 - Managerial and Project Economics	3	
BUS 420 - Management Perspectives	3	
Total Credits: 15		
Fourth Year		
Semester 1		
COT 405 – Methods of Problem Solving for Integrated Professional Studies	3	
BUS 530 – Practices of Industrial and Labor Relations	3	
AVT 445 – Aviation Law	3	

Aviation Elective – 300+	5		
Total Credits: 14			
Semester 2			
Basic Aviation Electives 300+	8		
AVT 450 - Aviation Safety Management	3		
AVT 497 - Senior Capstone	3		
Total Credits: 14			
Total Program Hours: 120			

Aeronautical Technology - Professional Pilot (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
AVT 100 - Introduction to Aviation	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 12			
Semester 2			
AVT 242 - Aviation Meteorology	3		
COMM 106 - Public Speaking I	3	**KSC 020**	
MATH 150 - Plane Trigonometry	3		
PPIL 111 - Private Pilot	4		

PPIL 113 - Private Pilot Flight Lab	1	
Arts & Humanities Elective	3	**KSC 060**
Total Credits: 17		
Second Year		
Semester 1		
ENGL 200 - Expository Writing II	3	**KSC 010**
PHYS 113 - General Physics I	4	**KSC 040**
PPIL 112 - Professional Instrument Pilot	3	
PPIL 114 - Professional Instrument Pilot Flight Lab	1	
PPIL 210 - Aviation Safety	3	
Free Elective (Institutionally Designated Area)	3	**KSC 070**
Total Credits: 17		
Semester 2		
AVT 340 - Human Factors in Aviation	3	
AVT 386 - Aerodynamics	3	
ENGL 302 - Technical Writing	3	
PPIL 211 - Professional Commercial Pilot	3	
PPIL 212 - Professional Commercial Pilot Flight Lab I	2	
Free Elective (Institutionally Designated Area)	3	**KSC 070**
Total Credits: 17		
Third Year		
Semester 1		

PPIL 213 - Professional Commercial Pilot Flight Lab II	2	
PPIL 325 - Advanced Aircraft Systems	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Natural & Physical Sciences Requirement - Lab	4	
Aviation Elective	3	
Total Credits: 15		
Semester 2		
BUS 315 - Supervisory Management	3	
COT 480 - Professional Conduct, Ethics, and Analysis	3	
PPIL 310 - Fundamentals of Instruction/Advanced Ground Instructor Ground School	3	
PPIL 311 - Certificated Flight Instructor-Airplane Ground School	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Aviation Elective	1	
Total Credits: 16		
Fourth Year		
Semester 1		
BUS 400 - Marketing Techniques and Applications	3	
PPIL 262 - Multi-Engine Ground School	1	
PPIL 263 - Multi-Engine Flight Lab **OR**	1	
PPIL 314 - Certified Flight Instructor Flight Lab	2	
PPIL 387 - Crew Resource Management I	3	
STAT 225 - Introduction to Statistics	3	
Aviation Elective	3	

Total Credits: 14			
Semester 2			
AVT 440 - Air Carrier Operations	3		
AVT 445 - Aviation Law	3		
AVT 497 - Senior Capstone	3		
Aviation Elective	3		
Total Credits: 12			
Total Program Hours: 120			

Aeronautical Technology - Uncrewed Aircraft Systems (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
COMM 106 - Public Speaking I	3	**KSC 020**	
MATH 100 - College Algebra	3	**KSC 030**	
UAS 114 - Remote Pilot Certification for UAS	2		
UAS 115 - Introduction to Multi-Rotor Flight Lab	1		
AVT 100 –Introduction to Aviation	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
Total Credits: 15			
Semester 2			
UAS 270 - Introduction to UAS	3		
UAS 312 – UAS Flight Instructor Ground School	3		

UAS 314 – Multi-rotor Instructor Flight Lab	1		
Arts & Humanities Requirement	3	**KSC 060**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Second Year			
Semester 1			
MATH 150 - Plane Trigonometry	3		
UAS 272 – UAS Safety Fundamentals	3		
UAS 374 – Processing Remotely Sensed Data	3		
Technical Elective	4		
Total Credits: 14			
Semester 2			
AVT 317 - Composites I	3		
ENGL 200 - Expository Writing II	3	**KSC 010**	
UAS 357 – Introduction to UAS Fixed-Wing Flight Lab	2		
PHYS 113 - General Physics I	4	**KSC 040**	
Technical Elective	3		
Total Credits: 15			
Third Year			
Semester 1			
UAS 280 - Multi-Rotor Construction Lab	2		

UAS 367 – Introduction to UAS Automated Fixed-Wing Flight Lab	3		
UAS 387 – UAS Safety Applications	2		
UAS 471 – Advanced Fixed-Wing Operations Flight Lab	2		
Technical Elective	4		
300+ Aviation/Electronics/Computer Elective/Internship	3		
Total Credits: 16			
Semester 2			
AAM 472 – Large Fixed-Wing Operations Flight Lab	2		
AVT 340 – Human Factors in Aviation	3		
BUS 315 – Supervisory Management	3		
ENGL 302 - Technical Writing	3		
Social & Behavioral Science Requirement	3	**KSC 050**	
Technical Elective	3		
Total Credits: 17			
Fourth Year			
Semester 1			
AVT 450 - Aviation Safety Management	3		
UAS 300 - UAS Powerplant Fundamentals	3		
UAS 480 - UAS Senior Design Project I	1		
Social & Behavioral Science Requirement	3	**KSC 050**	
Technical Elective	3		
Technical Elective - 300+	3		
Total Credits: 16			

Semester 2			
UAS 465 –Fixed-Wing Construction Lab and Autopilot Integration	3		
UAS 481 - UAS Senior Design Project II	2		
Arts & Humanities Requirement	3	**KSC 060**	
Natural Science Elective with Lab	4		
Total Credits: 12			
Total Program Hours: 120			

Aviation Maintenance (AAS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
AVM 101 - Introduction to Aircraft Materials and Tooling Standards	2		
AVM 102 - Aviation Regulations, Compliance and Operations	2		
AVM 103 - Intro to Aircraft Materials and Tooling Standards Laboratory	1		
AVM 111 - Basic Aircraft Electricity	4		
AVM 121 - Aircraft Drawings	2		
ENGL 100 - Expository Writing I	3	**KSC 010**	
Humanities/Social Science Electives	3		
Total Credits: 17			
Semester 2			
AVM 201 - Aircraft Metallic Primary Structures	3		
AVM 203 - Aircraft Environmental and Fire Protection Systems	2		

AVM 204 - Aircraft Environmental and Fire Protection Systems Laboratory	1		
AVM 205 - Aircraft Landing Gear and Fluid Power Systems	3		
AVM 207 - Aircraft Electrical Systems	3		
COMM 106 - Public Speaking I	3	**KSC 020**	
MATH 100 - College Algebra	3	**KSC 030**	
Total Credits: 18			
Second Year			
Semester 1			
AVM 216 - Aircraft Propulsion Drive Systems	3		
AVM 303 - Introduction to Aircraft Composite Structures	3		
AVM 305 - Aircraft Avionics and Instrument Systems	3		
AVM 306 - Rotary and Fixed Wing Aircraft Design and Assembly	3		
Total Credits: 12			
Semester 2			
AVM 301 - Advanced Reciprocating Powerplant Technology	3		
AVM 304 - Aircraft Fuel Management and Metering Systems	3		
AVM 322 - Powerplant Operation and Troubleshooting	3		
AVM 402 - Gas Turbine Powerplant Technology	3		
AVM 141 - Aircraft Science	3		
Total Credits: 15			
Total Program Hours: 62			

Professional Pilot (AAS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
AVT 100 - Introduction to Aviation	3		
MATH 100 - College Algebra	3	**KSC 030**	
PPIL 111 - Private Pilot	4		
PPIL 113 - Private Pilot Flight Lab	1		
Humanities/Social Science/Business Elective	3		
Total Credits: 14			
Semester 2			
AVT 242 - Aviation Meteorology	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 150 - Plane Trigonometry	3		
PPIL 112 - Professional Instrument Pilot	3		
PPIL 114 - Professional Instrument Pilot Flight Lab	1		
PSYCH 110 - General Psychology	3	**KSC 050**	
Total Credits: 16			
Second Year			
Semester 1			
AVT 386 - Aerodynamics	3		
COMM 106 - Public Speaking I	3	**KSC 020**	
PHYS 113 - General Physics I	4	**KSC 040**	
PPIL 211 - Professional Commercial Pilot	3		
PPIL 212 - Professional Commercial Pilot Flight Lab I	2		

Total Credits: 15			
Semester 2			
AVT 340 - Human Factors in Aviation	3		
PPIL 210 - Aviation Safety	3		
PPIL 213 - Professional Commercial Pilot Flight Lab II	2		
PPIL 262 - Multi-Engine Ground School	1		
PPIL 263 - Multi-Engine Flight Lab	1		
Aviation Elective	2		
Economic Elective	3		
Total Credits: 15			
Total Program Hours: 60			

Integrated Studies

Troy Harding, Head

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Kansas State Aerospace & Technology provides a small campus atmosphere with a professional learning environment built on theory, research and industry application in the classroom. Students can choose from serveral undergraduate programs, certificates, and master's programs, making the university an equally diverse community of traditional and nontraditional students.

Advanced Intelligent Systems Programming Undergraduate Certificate

The Advanced Intelligent Systems Programming Undergraduate Certificate is an intensive program designed to equip students with advanced programming skills in the realm of intelligent systems and artificial intelligence (AI). This certificate focuses on

topics like machine learning, human-computer interactions, natural language processing, and data analysis. Graduates are well-prepared for careers in AI development, data science, and advanced programming, making this certificate a valuable asset in the tech industry's evolving landscape.

Required Courses (12 credit hours)

CYBR 357 - Computer Vision for Immersive Systems **Credits:** 3
CYBR 391 - Data Structures and Algorithms for Cyber Systems **Credits:** 3
CYBR 455 - Human Computer Interactions for Cyber Systems **Credits:** 3
CYBR 460 - Software Engineering for Intelligent Cyber Systems **Credits:** 3

Total hours required: 12

Applied Business (AS)

This two-year associate's degree enables the graduate to succeed in an entry-level business position or to continue working toward a bachelor's degree in one of many business fields; including business, accounting, and management.

Associate's degree requirements (61 credit hours)

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Math Requirement

If not met through K-State Core requirements, MATH 100 is required.

KSC-030
MATH 100 - College Algebra **Credits:** 3

Business Core (18 credit hours)

BUS 110 - Introduction to Business **Credits:** 3
BUS 251 - Financial Accounting **Credits:** 3
BUS 252 - Managerial Accounting **Credits:** 3
BUS 315 - Supervisory Management **Credits:** 3
BUS 366 - Management with Information Technology **Credits:** 3

ENGL 302 - Technical Writing **Credits:** 3

Business Elective (9 credit hours)

Choose from the following:

BUS 400 - Marketing Techniques and Applications **Credits:** 3
BUS 420 - Management Perspectives **Credits:** 3
BUS 410 - Managerial and Project Economics **Credits:** 3
COT 495 - Advanced Industrial Internship **Credits:** 0-6

Total Hours Required: 61

Applied Business (AS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
BUS 110 - Introduction to Business	3		
COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 15			
Semester 2			
BUS 251 - Financial Accounting	3		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
ENGL 200 - Expository Writing II	3	**KSC 010**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Natural & Physical Sciences Requirement	4	**KSC 040**	
Total Credits: 16			

Second Year			
Semester 1			
BUS 252 - Managerial Accounting	3		
BUS 315 - Supervisory Management	3		
BUS 366 - Management with Information Technology	3		
ENGL 302 - Technical Writing	3		
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
Business Elective	3		
Business Elective	3		
Business Elective	3		
Arts & Humanities Requirement	3	**KSC 060**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Total Program Hours: 61			

Applied Business and Technology - Applied Business (BS)

The Bachelor of Science in Applied Business and Technology provides students with knowledge and skills designed to enhance their employability and upward mobility in the technical field of their choice. Students take courses in the diverse areas of management, accounting, and marketing; as well as in other essential business areas. The technology concentration courses can be done in any of a number of technical disciplines. Graduates are prepared for supervisory and management positions in a variety of technical areas, ranging from aviation and manufacturing to sales and product development.

The Applied Business Option allows students to build a more integrated business focus, with additional studies in mathematics and applied business electives.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements (21 credit hours)

The curriculum for this major assumes students enter college prepared to take Calculus.

Economic Requirement (3 credit hours)

ECON 120 - Principles of Microeconomics **Credits:** 3

English Requirement: (3 credit hours)

ENGL 302 - Technical Writing **Credits:** 3

Statistics Requirement: (3 credit hours)

STAT 225 - Introduction to Statistics **Credits:** 3

Computer Elective Requirement: (3 credit hours)

Natural Science Elective Requirement: (3 credit hours)

Communication Elective Requirement: (3 credit hours)

Must be 300+

Math Requirement: (3 credit hours)

MATH 205 - General Calculus **Credits:** 3

Professional Studies

Professional Studies: (65 credit hours)

Area of Concentration: 29

Business & Management: 30

BUS 110 - Introduction to Business **Credits:** 3
BUS 251 - Financial Accounting **Credits:** 3
BUS 252 - Managerial Accounting **Credits:** 3
BUS 315 - Supervisory Management **Credits:** 3
BUS 366 - Management with Information Technology **Credits:** 3
BUS 390 - Foundations of Business Law **Credits:** 3
BUS 400 - Marketing Techniques and Applications **Credits:** 3
BUS 420 - Management Perspectives **Credits:** 3
BUS 450 - Integrated Finance **Credits:** 3
BUS 520 - Integrated Technology Management Capstone **Credits:** 3
Area of Concentration, 300+ **Credits: 12**
Area of Concentration **Credits: 17**

Business Electives: (Choose 6 credit hours)

BUS 410 - Managerial and Project Economics **Credits:** 3
BUS 421 - Applied Operations Management **Credits:** 3
BUS 530 - Practices of Industrial and Labor Relations **Credits:** 3
BUS 531 - Strategic Human Resource Management **Credits:** 3
BUS 542 - Personal Selling and Sales Management **Credits:** 3
COT 450 - Salina International Experience **Credits:** 0-6
COT 480 - Professional Conduct, Ethics, and Analysis **Credits:** 3
COT 495 - Advanced Industrial Internship **Credits:** 0-6

Total Hours Required for Graduation: 120

Applied Business and Technology - Applied Business (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
BUS 110 - Introduction to Business	3		
COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 15			
Semester 2			

BUS 251 - Financial Accounting	3		
Social & Behavioral Science Requirement	3	**KSC 050**	
ENGL 200 - Expository Writing II	3	**KSC 010**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Natural & Physical Sciences Requirement - with Lab	4	**KSC 040**	
Total Credits: 16			
Second Year			
Semester 1			
BUS 252 - Managerial Accounting	3		
BUS 315 - Supervisory Management	3		
BUS 366 - Management with Information Technology	3		
ENGL 302 - Technical Writing	3		
Arts & Humanities Requirement	3	**KSC 060**	
Computer Elective	3		
Total Credits: 18			
Semester 2			
BUS 400 - Marketing Techniques and Applications	3		
BUS 420 - Management Perspectives	3		
ECON 120 - Principles of Microeconomics	3		
Arts & Humanities Requirement	3	**KSC 060**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			

Third Year			
Semester 1			
BUS 390 - Foundations of Business Law	3		
MATH 205 - General Calculus	3		
Area of Concentration	5		
Natural Science Elective	3		
Total Credits: 14			
Semester 2			
STAT 225 - Introduction to Statistics	3		
Communication Elective - 300 level or higher	3		
Area of Concentration	6		
Area of Concentration -300 level or higher	3		
Total Credits: 15			
Fourth Year			
Semester 1			
BUS 450 - Integrated Finance	3		
Business Elective - 300 level or higher	6		
Area of Concentration	6		
Total Credits: 15			
Semester 2			
BUS 520 - Integrated Technology Management Capstone	3		
Area of Concentration - 300 level or higher	9		

Total Credits: 12			
Total Program Hours: 120			

Applied Business and Technology - Technology Management (BS)

The Bachelor of Science in Applied Business and Technology provides students with knowledge and skills designed to enhance their employability and upward mobility in the technical field of their choice. Students take courses in the diverse areas of management, accounting, and marketing; as well as in other essential business areas. The technology concentration courses can be done in any of a number of technical disciplines. Graduates are prepared for supervisory and management positions in a variety of technical areas, ranging from aviation and manufacturing to sales and product development.

The Technology Management Option allows students transferring from two-year institutions to apply up to 39 credit-hours of their technical specialty, as well as general education courses, for a total of 60 credit-hours transferrable to Kansas State. The Applied Business Option allows students to build a more integrated business focus, with additional studies in mathematics and applied business electives.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements (17 credit hours)

If not met through K-State Core requirements, MATH 100 is required.

ECON 110 - Principles of Macroeconomics **Credits:** 3
ECON 120 - Principles of Microeconomics **Credits:** 3
ENGL 302 - Technical Writing **Credits:** 3
MATH 100 - College Algebra **Credits:** 3
KSC 030
STAT 225 - Introduction to Statistics **Credits:** 3
Natural Science Elective **Credits:** 3
Electives **Credits:** 2

Required Technology Management Coursework (30 credit hours)

Required (18 credit hours)

BUS 251 - Financial Accounting **Credits:** 3
BUS 252 - Managerial Accounting **Credits:** 3
BUS 315 - Supervisory Management **Credits:** 3
BUS 366 - Management with Information Technology **Credits:** 3
BUS 420 - Management Perspectives **Credits:** 3
BUS 520 - Integrated Technology Management Capstone **Credits:** 3

Electives (12 credit hours)

BUS 390 - Foundations of Business Law **Credits:** 3
BUS 400 - Marketing Techniques and Applications **Credits:** 3
BUS 410 - Managerial and Project Economics **Credits:** 3
BUS 421 - Applied Operations Management **Credits:** 3
BUS 450 - Integrated Finance **Credits:** 3
BUS 530 - Practices of Industrial and Labor Relations **Credits:** 3
BUS 531 - Strategic Human Resource Management **Credits:** 3
BUS 542 - Personal Selling and Sales Management **Credits:** 3
COT 450 - Salina International Experience **Credits:** 0-6 **
COT 480 - Professional Conduct, Ethics, and Analysis **Credits:** 3
COT 495 - Advanced Industrial Internship **Credits:** 0-6

Area of Concentration (39 credit hours*)

This block of courses may include course work in one area of concentration, or related multiple certificates, options, or specialization areas other than business. Courses accepted for transfer to K-State must be academic college-level courses.

***At least 15 credits of electives and/or the Area of Concentration must be upper-level courses (300+).**

**Repeatable with approval of Integrated Studies Department Head.

Total Hours Required for Graduation: 120

Applied Business Minor

The Applied Business minor is available to non-Business and non-Applied Business and Technology majors who will graduate from K-State. At least four of the six required courses must be completed at Kansas State University. Students must achieve a cumulative 2.50 GPA (K-State and transfer grades) in the six required courses to complete the minor. Note: Transfer grade of a "D" does not transfer.

Upon graduation, most students will be involved in organizations, both profit or nonprofit, that will use business concepts and principles to improve their services or products. To complete the Applied Business Minor, students must graduate from Kansas State University and complete the business courses listed below:

Required courses (18 hours)

BUS 251 - Financial Accounting **Credits:** 3
BUS 252 - Managerial Accounting **Credits:** 3
BUS 400 - Marketing Techniques and Applications **Credits:** 3
BUS 420 - Management Perspectives **Credits:** 3
BUS 450 - Integrated Finance **Credits:** 3
BUS 520 - Integrated Technology Management Capstone **Credits:** 3

Total hours required: 18

Applied Cyber Systems Design Undergraduate Certificate

The Applied Cyber Systems Design Undergraduate Certificate is a comprehensive program designed to equip students with the essential knowledge and skills to excel in the dynamic field of cyber system design. This certificate program, typically completed in one to two years, offers a focused curriculum that combines theory with hands-on practical experience.

Required Courses (12 credit hours)

CYBR 103 - Computing Principles **Credits:** 3
CYBR 137 - Principles of Interactive Digital Storytelling **Credits:** 3
CYBR 250 - Hardware and Network Fundamentals **Credits:** 3
MLAS 100 - Survey of Machine Learning and Autonomous Systems **Credits:** 3

Total hours required: 12

Applied Electronics Undergraduate Certificate

Dive into the dynamic world of embedded microprocessor systems with our Undergraduate Certificate in Applied Electronics. This program is designed for students and professionals seeking to develop expertise in designing, programming, and implementing embedded systems that drive innovation across various sectors. Students will engage in practical labs and projects that provide real-world applications of embedded electronics, from concept to prototype. Essential topics include microcontroller architecture, digital and analog electronics, programming for embedded systems, and interfacing techniques.

Required Courses: 12 Hours

CMST 302 - Applications in C Programming for Engineering Technology **Credits:** 3
ECET 350 - Microprocessor Fundamentals **Credits:** 3
ECET 352 - Digital Circuits and Systems **Credits:** 3
ECET 354 - Microcontroller Applications **Credits:** 3

Electives: 6 Hours

Choose 6 credit hours from the following list.

ECET 301 - Circuits II **Credits:** 4
ECET 304 - Electric Power and Devices **Credits:** 3
ECET 320 - Electronic Communication Systems **Credits:** 3
ECET 330 - Industrial Controls **Credits:** 4

ECET 335 - Industrial Control Topics **Credits:** 1
ECET 340 - Electronic Manufacturing **Credits:** 3
ECET 414 - Electromagnetic Applications **Credits:** 4
ECET 420 - Communication Circuits Design **Credits:** 3
ECET 421 - Telecommunication Systems **Credits:** 4
ECET 430 - Signals and Systems **Credits:** 3
ECET 450 - Digital Systems and Computer Architecture **Credits:** 4
ECET 480 - Electronic Design I **Credits:** 1
ECET 481 - Electronic Design II **Credits:** 2
ECET 499 - Advanced Topics in Electronic and Computer Engineering Technology **Credits:** 1-18

Total Hours Required: 18

Applied Machine Learning Undergraduate Certificate

The Applied Machine Learning Undergraduate Certificate is a focused program providing students with practical skills to harness the power of machine learning. Covering key concepts, algorithms, and real-world applications, this certificate equips students to work with data, build predictive models, and leverage AI for problem-solving. With a curriculum blending theory and hands-on experience, graduates are well-prepared for careers in data science, AI development, and analytics, making this program a valuable credential for those entering the tech industry or pursuing further studies in machine learning.

Required Courses (15 credit hours)

MLAS 100 - Survey of Machine Learning and Autonomous Systems **Credits:** 3
MLAS 200 - Introduction to Automata and Cybernetic Systems Theory **Credits:** 3
MLAS 390 - Unsupervised Learning in Autonomous Systems **Credits:** 3
MLAS 400 - Supervised learning in Autonomous Systems **Credits:** 3
MLAS 500 - Reinforcement Learning in Autonomous Systems **Credits:** 3

Total hours required: 15

Applied Manufacturing Undergraduate Certificate

The Certificate of Applied Manufacturing provides entry-level or career-changing students the option of immersing themselves in the principles and practice of manufacturing. The certificate can be issued as a stand-alone qualification, or can be used to gain entry to the Associate's, or Bachelor's, degree in engineering technology, mechanical engineering technology option.

Course Requirements

Minimum cumulative grade point average of 2.5 is required on courses applied to a certificate, and a grade of "C" or better is required in all coursework. All courses applied to the certificate must have letter grades. Courses with grades of "Credit" or "Pass" will not applicable. No more than 25% of total credit hours required for the certificate may be transfer credits.

This is a free-standing certificate; it may be earned without participation in or completion of a degree program.

Required Courses (17 credit hours)

MET 111 - Technical Graphics **Credits:** 3
MET 117 - Mechanical Modeling and Detailing **Credits:** 3
MET 121 - Manufacturing Methods **Credits:** 3
MET 125 - Computer-Numerical-Controlled Machine Processes **Credits:** 2
MET 231 - Physical Materials and Metallurgy **Credits:** 3

Choose 1 of the following:

MET 325 - Additive Manufacturing **Credits:** 3
AVT 317 - Composites I **Credits:** 3

Total credit hours: 17

Autonomous Robotics and Machine Learning Undergraduate Certificate

The Autonomous Robotics and Machine Learning Certificate equips students with the skills to design, program, and deploy autonomous robot systems. This program focuses on integrating machine learning and navigation strategies to develop intelligent robot platforms capable of operating in complex environments. With industries increasingly relying on robotics and artificial intelligence to solve complex challenges, this certificate bridges the gap between cutting-edge technology and practical applications, providing students with a unique blend of theoretical knowledge and hands-on experience.

Required Courses: (14 Credit Hours)

MLAS 100 - Survey of Machine Learning and Autonomous Systems **Credits:** 3
RAS 212 - Introduction to Robot Operating System (ROS) **Credits:** 3
RAS 260 - Path Planning and Navigation **Credits:** 3
RAS 268 - Mobile Robotics Navigation Studio **Credits:** 1
RAS 455 - Robot Embedded Systems **Credits:** 3
RAS 458 - Mobile Robotics Embedded Development Studio **Credits:** 1

Total Hours Required: 14

Composite Repair Undergraduate Certificate

This certificate provides the education and practical experience needed for placement in the rapidly growing composite repair field. In addition, the certificate provides current aviation maintenance workers an avenue through which they may expand their knowledge of and experience with modern composite repair materials and techniques.

Required Core Courses (12 credit hours)

AVT 400 - Composites II **Credits:** 3
AVT 417 - Composites III **Credits:** 3

Choose one of the following:

AVM 303 - Introduction to Aircraft Composite Structures **Credits:** 3
AVT 317 - Composites I **Credits:** 3

Choose one of the following:

COT 495 - Advanced Industrial Internship **Credits:** 0-6

PAV 497 - Senior Capstone **Credits:** 3

Total credit hours: 12

Cyber Systems Design & Dynamics - Immersive Systems Design (BS)

Cyber Systems Design & Dynamics (CSDD) is an innovative degree program merging the realms of digital design, human-computer interaction, virtual and augmented reality, data science, and intelligent computing systems architecture. This program equips students with unique and in-demand skills to create engaging virtual environments, immersive applications, predictive data systems, cyber physical systems, and interactive media. Coursework involves software development and engineering, machine learning, data engineering, 3D modeling, UX/UI design, narrative creation, and the psychological aspects of immersive technology. Engaging projects are an essential part of the curriculum and are designed to reinforce theoretical learnings. Additionally, hands-on cooperative industry experience provides real-world exposure for students. Graduates gain skills applicable to industries like aersospace, entertainment, education, healthcare, and manufacturing—preparing them for roles such as an XR designer, immersive content creator, data scientist, machine learning engineer, computer vision engineer, or UX designer. This degree is a strategic investment for those looking to thrive in a technologically advanced world and is ideal for tech-savvy creatives keen on redefining how people interact with digital worlds.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

Additional Course Requirements: 23 credit hours

The curriculum for this major assumes students enter college prepared to take Calculus.

ENGL 302 - Technical Writing **Credits:** 3
COT 480 - Professional Conduct, Ethics, and Analysis **Credits:** 3
STAT 225 - Introduction to Statistics **Credits:** 3
MATH 150 - Plane Trigonometry **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
PHYS 113 - General Physics I **Credits:** 4
Business Elective (300 or 400 Level)

Foundational CSDD Course Requirements: 27 credit hours

CYBR 103 - Computing Principles **Credits:** 3

CYBR 137 - Principles of Interactive Digital Storytelling **Credits:** 3
CYBR 163 - Fundamentals of Design Thinking **Credits:** 3
CYBR 180 - Introduction to Database Systems **Credits:** 3
CYBR 247 - Programming I **Credits:** 3
CYBR 250 - Hardware and Network Fundamentals **Credits:** 3
CYBR 280 - Applied Mathematics for Cyber Systems **Credits:** 3
CYBR 335 - Programming II **Credits:** 3
MLAS 100 - Survey of Machine Learning and Autonomous Systems **Credits:** 3

Degree Options

Choose 1 of the 2 Degree Options

Immersive Systems Design Option: 36 credit hours

CYBR 210 - Interactive Media Development **Credits:** 3
CYBR 301 - Immersive COOP Studio I **Credits:** 3
CYBR 360 - Foundations of Game Engine Design and Development **Credits:** 3
CYBR 401 - Immersive COOP Studio II **Credits:** 3
CYBR 495 - Immersive Cyber Systems Capstone I **Credits:** 3
CYBR 497 - Immersive Cyber Systems Capstone II **Credits:** 3

Choose 6 courses from the following list:

CYBR 310 - 3D Animation and Asset Production for XR **Credits:** 3
CYBR 320 - Foundations of Interactive Narratives **Credits:** 3
CYBR 322 - Multi-platform Interactive Media Design **Credits:** 3
CYBR 330 - Interactive Game and Audio Design **Credits:** 3
CYBR 332 - 3D Design and Modeling for XR **Credits:** 3
CYBR 357 - Computer Vision for Immersive Systems **Credits:** 3
CYBR 365 - User Experience (UX) Design for Immersive Systems **Credits:** 3
CYBR 366 - Cyber Security Operations **Credits:** 3
CYBR 391 - Data Structures and Algorithms for Cyber Systems **Credits:** 3
CYBR 443 - Interactive Systems Design for Virtual Reality (VR) **Credits:** 3
CYBR 445 - Interactive Systems Design for Augmented Reality (AR) **Credits:** 3
CYBR 455 - Human Computer Interactions for Cyber Systems **Credits:** 3
CYBR 457 - Intelligent Spatial Computing Systems **Credits:** 3
CYBR 459 - Real-time Computing Systems **Credits:** 3
CYBR 460 - Software Engineering for Intelligent Cyber Systems **Credits:** 3
CYBR 601 - Introduction to Cybernetic Modeling and Simulation **Credits:** 3

Machine Learning & Autonomous Systems Option: 36 credit hours

ETB 310 - Applied Data Analysis and Tools **Credits:** 3
MLAS 200 - Introduction to Automata and Cybernetic Systems Theory **Credits:** 3
MLAS 350 - Data Structures for Machine Learning **Credits:** 3
MLAS 390 - Unsupervised Learning in Autonomous Systems **Credits:** 3
MLAS 400 - Supervised learning in Autonomous Systems **Credits:** 3
MLAS 410 - Natural Language Processing **Credits:** 3

MLAS 412 - Deep Learning **Credits:** 3
MLAS 500 - Reinforcement Learning in Autonomous Systems **Credits:** 3
MLAS 501 - Artificial Intelligence Studio **Credits:** 3-6
MLAS 502 - Autonomous Systems Senior Capstone **Credits:** 6
STAT 705 - Regression and Analysis of Variance **Credits:** 3
STAT 730 - Multivariate Statistical Methods **Credits:** 3

Total Hours Required for Graduation: 120

Cyber Systems Design & Dynamics - Immersive Systems Design (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
MATH 100 - College Algebra	3	**KSC 030**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
CYBR 103 - Computing Principles	3		
MLAS 100 - Survey of Machine Learning and Autonomous Systems	3		
CYBR 137 - Principles of Interactive Digital Storytelling	3		
Total Credits: 15			
Semester 2			
MATH 150 - Plane Trigonometry	3		
COMM 106 - Public Speaking I	3	**KSC 020**	
CYBR 163 - Fundamentals of Design Thinking	3		
CYBR 180 - Introduction to Database Systems	3		
CYBR 247 - Programming I	3		
Total Credits: 15			
Second Year			

Semester I		
MATH 220 - Analytic Geometry and Calculus I	4	
PHYS 113 - General Physics I	4	
CYBR 335 - Programming II	3	
CYBR 210 - Interactive Media Development **OR**	3	
MLAS 200 - Introduction to Automata and Cybernetic Systems Theory	3	
Total Credits: 14		
Semester 2		
ENGL 200 - Expository Writing II	3	**KSC 010**
CYBR 250 - Hardware and Network Fundamentals	3	
CYBR 280 - Applied Mathematics for Cyber Systems	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Semester 3 (For ISD Option Students Only)		
CYBR 301 - Immersive COOP Studio I	3	
Total Credits: 3		
Third Year		
Semester 1		
STAT 225 - Introduction to Statistics	3	
ENGL 302 - Technical Writing	3	
Social and Behavioral Sciences Requirement	3	**KSC 050**

CYBR 360 - Foundations of Game Engine Design and Development	3		
Immersive Systems Design Elective	3		
Total Credits: 15			
Semester 2			
COT 480 - Professional Conduct, Ethics, and Analysis	3		
Immersive Systems Design Elective	3		
Immersive Systems Design Elective	3		
Arts & Humanities Requirement	3	**KSC 060**	
300+ Business Elective	3		
Total Credits: 15			
Semester 3			
CYBR 401 – Immersive COOP Studio II	3		
Total Credits: 3			
Fourth Year			
Semester 1			
CYBR 495 – Immersive Cyber Systems Capstone I	3		
Immersive Systems Design Elective	3		
Immersive Systems Design Elective	3		
Natural & Physical Science Requirement	4	**KSC 040**	
Total Credits: 13			
Semester 2			

CYBR 497 – Immersive Cyber Systems Capstone II	3		
Immersive Systems Design Elective	3		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 12			
Total Program Hours: 120			

Cyber Systems Design & Dynamics - Machine Learning & Autonomous Systems (BS)

Cyber Systems Design & Dynamics (CSDD) is an innovative degree program merging the realms of digital design, human-computer interaction, virtual and augmented reality, data science, and intelligent computing systems architecture. This program equips students with unique and in-demand skills to create engaging virtual environments, immersive applications, predictive data systems, cyber physical systems, and interactive media. Coursework involves software development and engineering, machine learning, data engineering, 3D modeling, UX/UI design, narrative creation, and the psychological aspects of immersive technology. Engaging projects are an essential part of the curriculum and are designed to reinforce theoretical learnings. Additionally, hands-on cooperative industry experience provides real-world exposure for students. Graduates gain skills applicable to industries like aersospace, entertainment, education, healthcare, and manufacturing—preparing them for roles such as an XR designer, immersive content creator, data scientist, machine learning engineer, computer vision engineer, or UX designer. This degree is a strategic investment for those looking to thrive in a technologically advanced world and is ideal for tech-savvy creatives keen on redefining how people interact with digital worlds.

Kansas State University Core: 34-36 Credit Hours

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The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements

The curriculum for this major assumes students enter college prepared to take Calculus.

Foundational CSDD Course Requirements: 27 Credit Hours

CYBR 103 - Computing Principles **Credits:** 3
CYBR 137 - Principles of Interactive Digital Storytelling **Credits:** 3
CYBR 163 - Fundamentals of Design Thinking **Credits:** 3
CYBR 180 - Introduction to Database Systems **Credits:** 3
CYBR 247 - Programming I **Credits:** 3
CYBR 250 - Hardware and Network Fundamentals **Credits:** 3
CYBR 280 - Applied Mathematics for Cyber Systems **Credits:** 3
CYBR 335 - Programming II **Credits:** 3
MLAS 100 - Survey of Machine Learning and Autonomous Systems **Credits:** 3

Additional Course Requirements: 23 Credit Hours

ENGL 302 - Technical Writing **Credits:** 3
COT 480 - Professional Conduct, Ethics, and Analysis **Credits:** 3
STAT 225 - Introduction to Statistics **Credits:** 3
MATH 150 - Plane Trigonometry **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
PHYS 113 - General Physics I **Credits:** 4

Degree Option

Machine Learning & Autonomous Systems Option: 36 Credit Hours

ETB 310 - Applied Data Analysis and Tools **Credits:** 3
STAT 705 - Regression and Analysis of Variance **Credits:** 3
STAT 730 - Multivariate Statistical Methods **Credits:** 3
MLAS 200 - Introduction to Automata and Cybernetic Systems Theory **Credits:** 3
MLAS 350 - Data Structures for Machine Learning **Credits:** 3
MLAS 390 - Unsupervised Learning in Autonomous Systems **Credits:** 3
MLAS 400 - Supervised learning in Autonomous Systems **Credits:** 3
MLAS 410 - Natural Language Processing **Credits:** 3
MLAS 412 - Deep Learning **Credits:** 3
MLAS 500 - Reinforcement Learning in Autonomous Systems **Credits:** 3
MLAS 501 - Artificial Intelligence Studio **Credits:** 3-6
MLAS 502 - Autonomous Systems Senior Capstone **Credits:** 6

Total Hours Required for Graduation: 120

Cyber Systems Design & Dynamics - Machine Learning & Autonomous Systems (BS) Academic Degree Map

First Year	Hours	K-State Core
Semester 1		

MATH 100 - College Algebra	3	**KSC 030**
ENGL 100 - Expository Writing I	3	**KSC 010**
CYBR 103 - Computing Principles	3	
MLAS 100 - Survey of Machine Learning and Autonomous Systems	3	
CYBR 137 - Principles of Interactive Digital Storytelling	3	
Total Credits: 15		
Semester 2		
MATH 150 - Plane Trigonometry	3	
COMM 106 - Public Speaking I	3	**KSC 020**
CYBR 163 - Fundamentals of Design Thinking	3	
CYBR 180 - Introduction to Database Systems	3	
CYBR 247 - Programming I	3	
Total Credits: 15		
Second Year		
Semester I		
MATH 220 - Analytic Geometry and Calculus I	4	
PHYS 113 - General Physics I	4	
CYBR 335 - Programming II	3	
MLAS 200 - Introduction to Automata and Cybernetic Systems Theory	3	
Total Credits: 14		
Semester 2		
ENGL 200 - Expository Writing II	3	**KSC 010**

CYBR 250 - Hardware and Network Fundamentals	3	
CYBR 280 - Applied Mathematics for Cyber Systems	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Semester 3		
MLAS 350 - Data Structures for Machine Learning	3	
Total Credits: 3		
Third Year		
Semester 1		
STAT 225 - Introduction to Statistics	3	
ENGL 302 - Technical Writing	3	
Social and Behavioral Sciences Requirement	3	**KSC 050**
ETB 310 - Applied Data Analysis and Tools	3	
MLAS 390 - Unsupervised Learning in Autonomous Systems	3	
Total Credits: 15		
Semester 2		
COT 480 - Professional Conduct, Ethics, and Analysis	3	
MLAS 400 - Supervised learning in Autonomous Systems	3	
MLAS 410 - Natural Language Processing	3	
Arts & Humanities Requirement	3	**KSC 060**
300+ Business Elective	3	

Total Credits: 15		
Semester 3		
STAT 705 - Regression and Analysis of Variance	3	
Total Credits: 3		
Fourth Year		
Semester 1		
MLAS 412 - Deep Learning	3	
MLAS 500 - Reinforcement Learning in Autonomous Systems	3	
STAT 730 - Multivariate Statistical Methods	3	
Natural & Physical Science Requirement	4	**KSC 040**
Total Hours: 13		
Semester 2		
MLAS 501 - Artificial Intelligence Studio	3-6	
MLAS 502 - Autonomous Systems Senior Capstone	6	
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Free Elective {Institutionally Designated Area}	3	**KSC 070**
Total Hours: 12		
Total Program Hours: 120		

Cyber Systems Programming Undergraduate Certificate

The Cyber Systems Programming Undergraduate Certificate is a specialized program designed to empower students with the knowledge and skills required to excel in the rapidly evolving field of cybernetics and programming. This certificate program

typically spans one to two years and offers a comprehensive curriculum that blends theoretical foundations with hands-on practical experience.

Required Courses (12 credit hours)

CYBR 180 - Introduction to Database Systems **Credits:** 3
CYBR 210 - Interactive Media Development **Credits:** 3
CYBR 247 - Programming I **Credits:** 3
CYBR 335 - Programming II **Credits:** 3

Digital Media User Experience (UX) Design Undergraduate Certificate

This certificate program offers a design thinking-centric approach to user experience (UX) design. The courses consist of industry-standard, skill-based instruction encompassed around a digital media visual communication perspective rather than one focused on marketing or programming alone. Throughout the duration of the four courses, students will summarize and demonstrate all stages of the UX design process starting from user research to defining a project's strategy, scope and information architecture, to developing sitemaps and wireframes. The skills acquired in these courses are applicable to a wide variety of careers in digital media.

Requirements: (12 credit hours)

DIGME 137 - Fundamentals of Visual Communication **Credits:** 3

CMST 135 - Web Fundamentals **Credits:** 3
or
DIGME 256 - Digital Literacy **Credits:** 3

CYBR 163 - Fundamentals of Design Thinking **Credits:** 3
CYBR 365 - User Experience (UX) Design for Immersive Systems **Credits:** 3

Total Hours Required: 12

Engineering Technology - Electronic and Computer Engineering Technology (AS)

Electronic and computer engineering technicians work in all areas of the electronics industry, including industrial control electronics, communications, and digital systems. These individuals work closely with electronic engineering technologists, electrical engineers, computer scientists, and other professionals in the design, development, marketing, and maintenance of electronic products and systems.

Kansas State University Core: 34-36 Credit Hours

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general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: [3] Credit Hours

Math Requirement: [3] Credit Hours

If not met through K-State Core requirements, MATH 100 is required.

MATH 100 - College Algebra **Credits:** 3
KSC-030
MATH 150 - Plane Trigonometry **Credits:** 3

Physics Requirement: [4] Credit Hours

PHYS 113 - General Physics I **Credits:** 4 [Counted in Core]

Major Requirements: 26 credit hours

ECET 100 - Basic Electronics **Credits:** 3
ECET 101 - Circuits I **Credits:** 4
ECET 220 - Semiconductor Electronics **Credits:** 4
ECET 250 - Digital Logic **Credits:** 3
ECET 301 - Circuits II **Credits:** 4
ECET 335 - Industrial Control Topics **Credits:** 1
ECET 350 - Microprocessor Fundamentals **Credits:** 3
Restricted Elective: **Choose from the list below**
ECET 340 - Electronic Manufacturing **Credits:** 3
CYBR 250 - Hardware and Network Fundamentals **Credits:** 3
MET 382 - Industrial Instrumentation and Controls **Credits:** 3

Total Hours Required for Graduation: 63

Engineering Technology - Electronic and Computer Engineering Technology (AS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
Arts & Humanities Requirement	3	**KSC 060**	
ECET 100 - Basic Electronics	3		

ECET 250 - Digital Logic	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
Total Credits: 15			
Semester 2			
ECET 101 - Circuits I	4		
MATH 150 - Plane Trigonometry	3		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
COMM 106 - Public Speaking I	3	**KSC 020**	
Total Credits: 16			
Second Year			
Semester 1			
ECET 220 - Semiconductor Electronics	4		
ECET 301 - Circuits II	4		
PHYS 113 - General Physics I	4	**KSC 040**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 15			
Semester 2			
ECET 350 - Microprocessor Fundamentals	3		
ECET 335 - Industrial Control Topics	1		
Arts & Humanities Requirement	3	**KSC 060**	

ENGL 200 - Expository Writing II	3	**KSC 010**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Restricted Elective: Choose From the List Below:	3		
CYBR 250 - Hardware and Network Fundamentals	[3]		
ECET 340 - Electronic Manufacturing	[3]		
MET 382 - Industrial Instrumentation and Controls	[3]		
Total Credits: 17			
Total Program Hours: 63			

Engineering Technology - Electronic and Computer Engineering Technology (BS)

Students may continue their studies in electronic and computer engineering technology beyond the associate degree level to obtain the bachelor of science degree. The bachelor's degree typically requires two years of study beyond the associate degree.

Course work in the junior and senior years of the bachelor's degree program provides additional depth of understanding of circuit analysis techniques, digital systems, data communications, and industrial electronics. Individual and group project assignments are emphasized. Additional mathematics, science, and elective courses provide a strong background with which graduates are prepared for the technical professions of tomorrow.

Graduates work as electronic and computer engineering technologists in many industrial settings. Career activities include product design and development, industrial automation, technical sales, and project management.

The bachelor's degree program in electronic and computer engineering technology is accredited by the Engineering Technology Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012. Telephone: (410) 347-7700. Website: www.abet.org.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements (22-24 credit hours)

The curriculum for this major assumes students enter college prepared to take Calculus.

KSC-030

MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Free Electives (13-15 credit hours) **Credits / Units:** 13-15

Professional Studies

Professional Studies: (62 credit hours)

ECET 100 - Basic Electronics **Credits:** 3
CYBR 250 - Hardware and Network Fundamentals **Credits:** 3
CMST 302 - Applications in C Programming for Engineering Technology **Credits:** 3
ECET 101 - Circuits I **Credits:** 4
ECET 220 - Semiconductor Electronics **Credits:** 4
ECET 250 - Digital Logic **Credits:** 3
ECET 301 - Circuits II **Credits:** 4
ECET 304 - Electric Power and Devices **Credits:** 3
ECET 320 - Electronic Communication Systems **Credits:** 3
ECET 335 - Industrial Control Topics **Credits:** 1
ECET 340 - Electronic Manufacturing **Credits:** 3
ECET 350 - Microprocessor Fundamentals **Credits:** 3
ECET 352 - Digital Circuits and Systems **Credits:** 3

OR

ECET 354 - Microcontroller Applications **Credits:** 3
ECET 420 - Communication Circuits Design **Credits:** 3

OR

ETB 420 - Unmanned Communication Circuits **Credits:** 3
ECET 430 - Signals and Systems **Credits:** 3
ECET 450 - Digital Systems and Computer Architecture **Credits:** 4
ECET 480 - Electronic Design I **Credits:** 1
ECET 481 - Electronic Design II **Credits:** 2
MET 382 - Industrial Instrumentation and Controls **Credits:** 3

Technical Electives Credits: 6 Credits / Units: 6

Includes courses with a prefix of AIT, ECET, MET, RAET, RAS **Credits / Units:** 6

Total Hours Required for Graduation: 120

Engineering Technology - Electronic and Computer Engineering Technology (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ECET 100 - Basic Electronics	3		

ECET 250 - Digital Logic	3	
ENGL 100 - Expository Writing I	3	**KSC 010**
MATH 100 - College Algebra	3	**KSC 030**
Arts & Humanities Requirement	3	**KSC 060**
Total Credits: 15		
Semester 2		
CYBR 250 - Hardware and Network Fundamentals	3	
COMM 106 - Public Speaking I	3	**KSC 020**
ECET 101 - Circuits I	4	
Free Elective	3	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 16		
Second Year		
Semester 1		
CMST 302 - Applications in C Programming for Engineering Technology	3	
ECET 220 - Semiconductor Electronics	4	
ECET 301 - Circuits II	4	
Social & Behavioral Science Requirement	3	**KSC 050**
Free Elective	3	
Total Credits: 17		
Semester 2		
ECET 335 - Industrial Control Topics	1	

ECET 340 - Electronic Manufacturing	3		
ECET 350 - Microprocessor Fundamentals	3		
ENGL 200 - Expository Writing II	3	**KSC 010**	
MET 382 - Industrial Instrumentation and Controls	3		
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 16			
Third Year			
Semester 1			
AIT 301 - Advanced Technical Mathematics	3		
ECET 304 - Electric Power and Devices	3		
ECET 352 - Digital Circuits and Systems **OR**	3		
ECET 354 - Microcontroller Applications	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Natural & Physical Sciences Requirement - with Lab	4	**KSC 040**	
Total Credits: 16			
Semester 2			
Free Elective	4		
ECET 320 - Electronic Communication Systems	3		
Free Elective	3		
Free Elective	4		
Total Credits: 14			
Fourth Year			

Semester 1			
ECET 430 - Signals and Systems	3		
ECET 450 - Digital Systems and Computer Architecture	4		
ECET 480 - Electronic Design I	1		
Free Elective	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 14			
Semester 2			
ECET 420 - Communication Circuits Design **OR**	3		
ETB 420 - Unmanned Communication Circuits	3		
ECET 481 - Electronic Design II	2		
Technical Electives	6		
AIT 370 - Technology Project Management	3		
Total Credits: 14			
Total Program Hours: 122			

Engineering Technology - Mechanical Engineering Technology (AS)

The mechanical engineering technology program prepares graduates for applied mechanical and manufacturing engineering-related careers with a hands-on, practical approach. The program emphasizes understanding how engineering principles are applied in practice, rather than purely the mathematical methods used.

The mechanical engineering technology program is built upon a strong foundation of science, mathematics, and applied technical courses designed to meet the diverse needs of the industrial workforce. Mechanical engineering technology concepts are used in all types of industry and are directly applied to product design and manufacturing. Courses in technical graphics with CAD, manufacturing processes, materials, material strength and testing, computer numerical control, automated manufacturing systems, machine design, quality control, and economics provide the student with a broad range of expertise for a career in mechanical engineering technology.

Graduates of the mechanical engineering technology program work within engineering teams in applied design, project management, product development, testing, manufacturing, plant operations, maintenance, or technical sales. Associate degree

graduates accept jobs as engineering technicians, engineering aides, plant operation and maintenance staff, layout staff, production assistants, and technical sales staff.

Associate degree requirements (64 credit hours)

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements: [3] Credit Hours

Physics Requirement: [4] Credit Hours

PHYS 113 - General Physics I **Credits:** 4 [Counted in Core]

Math Requirement: [3] Credit Hours

MATH 100 - College Algebra **Credits:** 3 [Counted in Core]

MATH 150 - Plane Trigonometry **Credits:** 3

Major Requirements: 27 credit hours

ECET 100 - Basic Electronics **Credits:** 3
MET 111 - Technical Graphics **Credits:** 3
MET 117 - Mechanical Modeling and Detailing **Credits:** 3
MET 121 - Manufacturing Methods **Credits:** 3
MET 125 - Computer-Numerical-Controlled Machine Processes **Credits:** 2
MET 211 - Statics **Credits:** 3
MET 230 - Automated Manufacturing Systems I **Credits:** 3
MET 245 - Material Strength and Testing **Credits:** 3
MET 264 - Machine Design Technology I **Credits:** 4

Total Hours Required for Graduation: 64

Engineering Technology - Mechanical Engineering Technology (AS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
MET 111 - Technical Graphics	3		
MET 121 - Manufacturing Methods	3		
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
ECET 100 - Basic Electronics	3		
MATH 150 - Plane Trigonometry	3		
MET 117 - Mechanical Modeling and Detailing	3		
MET 125 - Computer-Numerical-Controlled Machine Processes	2		
Arts & Humanities Requirement	3	**KSC 060**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 17			
Second Year			
Semester 1			
COMM 106 - Public Speaking I	3	**KSC 020**	
MET 211 - Statics	3		
PHYS 113 - General Physics I	4	**KSC 040**	

Social & Behavioral Sciences Requirement	3	**KSC 050**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Semester 2			
MET 245 - Material Strength and Testing	3		
MET 264 - Machine Design Technology I	4		
MET 230 - Automated Manufacturing Systems I	3		
ENGL 200 - Expository Writing II	3	**KSC 010**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Total Program Hours: 64			

Engineering Technology - Mechanical Engineering Technology (BS)

Focus on technical graphics with computer-aided drafting, material strength and testing, computer numerical control, economics, quality control and machine design.

Plans become reality in our design and build laboratory. Mechanical engineering students learn in 5,000-square feet of creative space where concepts are designed, prototyped and tested. Students have access to modern technology and equipment, such as 3D printers, a CNC vertical machining center, a laser printer and more.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements (17 credit hours)

The curriculum for this major assumes students enter college prepared to take Calculus.

Computer Requirement: (3 credit hours)

Computer Elective (300+)

English Requirement: (3 credit hours)

ENGL 302 - Technical Writing **Credits:** 3

Physics Requirement: (4 credit hours)

PHYS 113 - General Physics I **Credits:** 4

Math Requirement: (7 credit hours)

MATH 150 - Plane Trigonometry **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Professional Studies (70 credit hours)

MET 117 - Mechanical Modeling and Detailing **Credits:** 3
MET 121 - Manufacturing Methods **Credits:** 3
MET 125 - Computer-Numerical-Controlled Machine Processes **Credits:** 2
MET 211 - Statics **Credits:** 3
MET 230 - Automated Manufacturing Systems I **Credits:** 3
MET 231 - Physical Materials and Metallurgy **Credits:** 3
MET 245 - Material Strength and Testing **Credits:** 3
MET 252 - Fluid Power Technology **Credits:** 3
MET 264 - Machine Design Technology I **Credits:** 4
MET 314 - Finite Element Analysis and Design Modeling **Credits:** 3
MET 336 - Dynamics of Machines **Credits:** 3
MET 346 - Elements of Mechanisms **Credits:** 3
MET 353 - Fluid Mechanics **Credits:** 3
MET 365 - Machine Design Technology II **Credits:** 3
MET 382 - Industrial Instrumentation and Controls **Credits:** 3
MET 462 - Senior Design Project I **Credits:** 1
MET 464 - Senior Design Project II **Credits:** 2
MET 471 - Thermodynamics and Heat Transfer **Credits:** 4
MET 481 - Automated Manufacturing Systems II **Credits:** 3
ECET 100 - Basic Electronics **Credits:** 3
ECET 304 - Electric Power and Devices **Credits:** 3
ETB 310 - Applied Data Analysis and Tools **Credits:** 3
Technical Electives (300+) **Credits:** 6

Total Hours Required for Graduation: 121

Engineering Technology - Mechanical Engineering Technology (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
MET 121 - Manufacturing Methods	3		
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
MATH 150 - Plane Trigonometry	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
ECET 100 - Basic Electronics	3		
MET 117 - Mechanical Modeling and Detailing	3		
MET 125 - Computer-Numerical-Controlled Machine Processes	2		
Total Credits: 14			
Second Year			
Semester 1			
COMM 106 - Public Speaking I	3	**KSC 020**	
MATH 220 - Analytic Geometry and Calculus I	4		
MET 211 - Statics	3		
MET 252 - Fluid Power Technology	3		

PHYS 113 - General Physics I	4		
Total Credits: 17			
Semester 2			
MET 230 - Automated Manufacturing Systems I	3		
MET 231 - Physical Materials and Metallurgy	3		
MET 245 - Material Strength and Testing	3		
MET 264 - Machine Design Technology I	4		
Natural and Physical Sciences Requirement	4	**KSC 040**	
Total Credits: 17			
Third Year			
Semester 1			
ECET 304 - Electric Power and Devices	3		
ETB 310 - Applied Data Analysis and Tools	3		
MET 314 - Finite Element Analysis and Design Modeling	3		
MET 336 - Dynamics of Machines	3		
MET 365 - Machine Design Technology II	3		
Total Credits: 15			
Semester 2			
ENGL 200 - Expository Writing II	3	**KSC 010**	
MET 346 - Elements of Mechanisms	3		
MET 353 - Fluid Mechanics	3		
MET 382 - Industrial Instrumentation and Controls	3		

Technical Elective - 300+	3		
Total Credits: 15			
Fourth Year			
Semester 1			
MET 462 - Senior Design Project I	1		
MET 481 - Automated Manufacturing Systems II	3		
Arts & Humanities Requirement	3	**KSC 060**	
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Computer Elective - 300+	3		
Total Credits: 13			
Semester 2			
ENGL 302 - Technical Writing	3		
MET 464 - Senior Design Project II	2		
MET 471 - Thermodynamics and Heat Transfer	4		
Technical Elective - 300+	3		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 15			
Total Program Hours: 121			

Engineering Technology - Robotics and Automation (BS)

The Robotics and Automation Engineering Technology program responds to the need for skilled engineering technology professionals in the thriving and growing fields of robotics and automation. Both are dynamic fields involving the design, building, programming, functional use, and maintenance of machinery. The distinction being that robotic systems may be designed to perform different tasks under software control. Whereas, automation systems are typically designed for a single task and operate in a more deterministic environment. Despite the minor differences in the application of the machinery, the skill sets

required of engineers working in these fields are closely aligned. The nature of the field requires that workers not only have solid technical engineering knowledge, but also know both how to apply the knowledge in hands-on laboratory and factory settings, and how to communicate well. The Robotics and Automation Engineering Technology degree is designed to give students the advantage of a solid background in the three cornerstone disciplines of the field – mechanical engineering technology, electronic and computer engineering technology, and computer systems technology. Students take select courses from the three disciplines that provide an engineering foundation and directly relate to robotics and automation.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements (20 credit hours)

The curriculum for this major assumes students enter college prepared to take Calculus.

English Requirements: (3 credit hours)

ENGL 302 - Technical Writing **Credits:** 3

Math Requirements: (7 credit hours)

MATH 150 - Plane Trigonometry **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Physics Requirements (4 credit hours)

PHYS 113 - General Physics I **Credits:** 4
(included in core)
PHYS 114 - General Physics II **Credits:** 4

COT Requirements: (2 credit hours)

COT 301 - Six Sigma Analysis and Problem Solving I **Credits:** 1
COT 302 - Six Sigma Analysis and Problem Solving II **Credits:** 1

Professional Studies (64 credit hours)

CYBR 180 - Introduction to Database Systems **Credits:** 3

CMST 302 - Applications in C Programming for Engineering Technology **Credits:** 3
RA 305 - Robotics Programming **Credits:** 3
RA 357 - Machine Vision **Credits:** 3
RAS 385 - Advanced Programmable Logic Controllers **Credits:** 3
ECET 100 - Basic Electronics **Credits:** 3
ECET 250 - Digital Logic **Credits:** 3
ECET 304 - Electric Power and Devices **Credits:** 3
ECET 350 - Microprocessor Fundamentals **Credits:** 3
ECET 352 - Digital Circuits and Systems **Credits:** 3
OR
ECET 354 - Microcontroller Applications **Credits:** 3
ETB 310 - Applied Data Analysis and Tools **Credits:** 3
ETB 482 - Senior Design Project I **Credits:** 1
ETB 483 - Senior Design Project II **Credits:** 1-3
MET 117 - Mechanical Modeling and Detailing **Credits:** 3
MET 121 - Manufacturing Methods **Credits:** 3
MET 211 - Statics **Credits:** 3
MET 230 - Automated Manufacturing Systems I **Credits:** 3
MET 240 - Industrial Robotics Laboratory **Credits:** 2
MET 245 - Material Strength and Testing **Credits:** 3
MET 264 - Machine Design Technology I **Credits:** 4
MET 336 - Dynamics of Machines **Credits:** 3
MET 382 - Industrial Instrumentation and Controls **Credits:** 3

300+ Technical Electives (7 credit hours)

Choose from the list below.

ECET 430 - Signals and Systems **Credits:** 3
ETB 483 - Senior Design Project II **Credits:** 1-3
MET 346 - Elements of Mechanisms **Credits:** 3
MET 481 - Automated Manufacturing Systems II **Credits:** 3
RA 342 - Industrial Robotics Lab 2 **Credits:** 1
RA 343 - Industrial Robotics Lab 3 **Credits:** 1
RA 444 - Integrated Robotics Studio **Credits:** 0-2

Total Hours Required for Graduation: 121

Engineering Technology - Robotics and Automation (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
CYBR 180 - Introduction to Database Systems	3		
ECET 100 - Basic Electronics	3		

ECET 250 - Digital Logic	3		
MATH 100 - College Algebra	3	**KSC 030**	
MET 121 - Manufacturing Methods	3		
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 18			
Semester 2			
COMM 106 - Public Speaking I	3	**KSC 020**	
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 150 - Plane Trigonometry	3		
MET 117 - Mechanical Modeling and Detailing	3		
MET 230 - Automated Manufacturing Systems I	3		
Total Credits: 15			
Second Year			
Semester 1			
CMST 302 - Applications in C Programming for Engineering Technology	3		
MATH 220 - Analytic Geometry and Calculus I	4		
MET 211 - Statics	3		
PHYS 113 - General Physics I	4		
Total Credits: 14			
Semester 2			
ECET 350 - Microprocessor Fundamentals	3		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	

MET 245 - Material Strength and Testing	3	
MET 264 - Machine Design Technology I	4	
Total Credits: 13		
Third Year		
Semester 1		
ECET 304 - Electric Power and Devices	3	
ECET 352 - Digital Circuits and Systems **OR**	3	
ECET 354 - Microcontroller Applications	3	
ETB 310 - Applied Data Analysis and Tools	3	
ENGL 200 - Expository Writing II	3	**KSC 010**
MET 240 - Industrial Robotics Laboratory	2	
Social & Behavioral Sciences Requirement	3	**KSC 050**
Total Credits: 17		
Semester 2		
RA 305 - Robotics Programming	3	
COT 301 - Six Sigma Analysis and Problem Solving I	1	
RAS 385 - Advanced Programmable Logic Controllers	3	
MET 382 - Industrial Instrumentation and Controls	3	
Natural and Physical Scienced Requirement	4	**KSC 040**
Total Credits: 14		
Fourth Year		
Semester 1		

COT 302 - Six Sigma Analysis and Problem Solving II	1		
ENGL 302 - Technical Writing	3		
ETB 482 - Senior Design Project I	1		
MET 336 - Dynamics of Machines	3		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Technical Elective - 300+	4		
Total Credits: 15			
Semester 2			
RA 357 - Machine Vision	3		
ETB 483 - Senior Design Project II	1-3		
Arts & Humanities Requirement	3	**KSC 060**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Technical Elective - 300+	3		
Total Credits: 14			
Total Program Hours: 120			

Engineering Technology - Uncrewed Aircraft Systems (BS)

Tailored to combine computer science, electronic engineering and mechanical engineering with uncrewed systems, students in this program will explore the intricacies of UAS subsystems and components, such as software design, computer networking, firmware and hardware, sensors and actuators, and camera systems and other payloads.

Students will be expected to execute critical thinking, problem solving and research skills while engaging in classes about electronic circuits, communication systems, control systems, machine design, manufacturing technology, materials technology and fundamentals of UAS operations.

No flight ratings required.

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Program Requirements (14 credit hours)

The curriculum for this major assumes students enter college prepared to take Calculus.

ENGL 302 - Technical Writing **Credits:** 3
MATH 150 - Plane Trigonometry **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
PHYS 113 - General Physics I **Credits:** 4

Professional Studies (56 credit hours)

AVT 317 - Composites I **Credits:** 3
AVT 450 - Aviation Safety Management **Credits:** 3
CMST 302 - Applications in C Programming for Engineering Technology **Credits:** 3
CYBR 250 - Hardware and Network Fundamentals **Credits:** 3
ECET 101 - Circuits I **Credits:** 4
ECET 100 - Basic Electronics **Credits:** 3
ECET 220 - Semiconductor Electronics **Credits:** 4
ECET 250 - Digital Logic **Credits:** 3
ECET 301 - Circuits II **Credits:** 4
ECET 320 - Electronic Communication Systems **Credits:** 3
ETB 480 - UAS Senior Design I **Credits:** 1
ETB 481 - UAS Senior Design II **Credits:** 2
MET 211 - Statics **Credits:** 3
MET 245 - Material Strength and Testing **Credits:** 3
MET 336 - Dynamics of Machines **Credits:** 3
UAS 270 - Introduction to UAS **Credits:** 3
UAS 280 - Multi-Rotor Construction Lab **Credits:** 2
UAS 300 - UAS Powerplant Fundamentals **Credits:** 3
UAS 465 - Fixed-Wing Construction Lab and Autopilot Integration **Credits:** 3

Restricted Electives (6 credit hours)

ECET 340 - Electronic Manufacturing **Credits:** 3
ECET 430 - Signals and Systems **Credits:** 3
ETB 352 - Microcontroller applications in Unmanned Systems **Credits:** 3
ETB 420 - Unmanned Communication Circuits **Credits:** 3

Technical Electives (10 credit hours)

10 credit hours required, 8 credit hours 300+ level

AVT 400 - Composites II **Credits:** 3
AVT 417 - Composites III **Credits:** 3
CMST 315 - Introduction to System Administration **Credits:** 3
CMST 344 - Internetworking **Credits:** 3
ECET 350 - Microprocessor Fundamentals **Credits:** 3
ECET 352 - Digital Circuits and Systems **Credits:** 3
ECET 430 - Signals and Systems **Credits:** 3
ECET 450 - Digital Systems and Computer Architecture **Credits:** 4
ETB 310 - Applied Data Analysis and Tools **Credits:** 3
MET 325 - Additive Manufacturing **Credits:** 3
MET 353 - Fluid Mechanics **Credits:** 3
MET 471 - Thermodynamics and Heat Transfer **Credits:** 4
UAS 475 - Data Acquisition and Post-processing **Credits:** 3
RA 305 - Robotics Programming **Credits:** 3
RA 357 - Machine Vision **Credits:** 3
UAS 114 - Remote Pilot Certification for UAS **Credits:** 2
UAS 115 - Introduction to Multi-Rotor Flight Lab **Credits:** 1

Total hours required for graduation 120

Engineering Technology - Uncrewed Aircraft Systems (BS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
ECET 100 - Basic Electronics	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
MATH 100 - College Algebra	3	**KSC 030**	
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Arts & Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
COMM 106 - Public Speaking I	3	**KSC 020**	

ECET 101 - Circuits I	4		
MATH 150 - Plane Trigonometry	3		
UAS 270 - Introduction to UAS	3		
Total Credits: 13			
Second Year			
Semester 1			
ECET 250 - Digital Logic	3		
ECET 301 - Circuits II	4		
MATH 220 - Analytic Geometry and Calculus I	4		
ECET 220 - Semiconductor Electronics	4		
Total Credits: 15			
Semester 2			
PHYS 113 - General Physics I	4	**KSC 040**	
Restricted Elective	3		
Arts & Humanities Requirement	3	**KSC 060**	
CYBR 250 - Hardware and Network Fundamentals	3		
ENGL 200 - Expository Writing II	3	**KSC 010**	
Total Credits: 16			
Third Year			
Semester 1			
AVT 317 - Composites I	3		
MET 211 - Statics	3		

MET 336 - Dynamics of Machines	3		
UAS 280 - Multi-Rotor Construction Lab	2		
Technical Elective	2		
Free Elective {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 16			
Semester 2			
ECET 320 - Electronic Communication Systems	3		
MET 245 - Material Strength and Testing	3		
UAS 465 - Fixed-Wing Construction Lab and Autopilot Integration	3		
Technical Elective - 300+	2		
Natural and Physical Sciences Requirement	4		
Total Credits: 15			
Fourth Year			
Semester 1			
AVT 450 - Aviation Safety Management	3		
CMST 302 - Applications in C Programming for Engineering Technology	3		
ETB 480 - UAS Senior Design I	1		
UAS 300 - UAS Powerplant Fundamentals	3		
Restricted Electives	3		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 16			
Semester 2			

ENGL 302 - Technical Writing	3		
ETB 481 - UAS Senior Design II	2		
Technical Elective - 300+	3		
Technical Elective - 300+	3		
Social & Behavioral Sciences Requirement	3	**KSC 050**	
Total Credits: 14			
Total Program Hours: 120			

Engineering Technology - Web Development Technology (AS)

The web development technology program builds a foundation in computer science and applies these concepts to the world of e-commerce and website development. All students take introductory classes in operating systems and program design. The program also includes courses in programming and network administration.

Students interested in programming-oriented careers will find the curriculum challenging and rewarding. Students obtain experience with client-side programming, server-side programming, video and audio streaming, as well as database integration and other ways to make the web an effective tool for business.

Students also learn project management and the use of timetables and other organizational techniques. Software tools including Flash, DreamWeaver, and Javascript are utilized, but the main curriculum emphasis is on programming solutions to actual problems.

Required for graduation (61 credit hours)

Kansas State University Core: 34-36 Credit Hours

K-State Core is the foundation for an impactful life and career after time at K-State.

The K-State Core framework covers six disciplinary areas: **English, Communications, Mathematics & Statistics, Natural & Physical Sciences, Social & Behavioral Sciences, and Arts and Humanities**. In addition, a seventh area is reserved for institutionally designated use, which K-State is keeping as free electives. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere cannot be required to take additional general education coursework in the disciplinary areas of the framework without permission from KBOR to continue requiring courses in the K-State Core.

General Education: K-State Core

Major Requirements: 27 Credit Hours

CYBR 103 - Computing Principles **Credits:** 3
CYBR 180 - Introduction to Database Systems **Credits:** 3
CYBR 247 - Programming I **Credits:** 3
CYBR 250 - Hardware and Network Fundamentals **Credits:** 3
CYBR 335 - Programming II **Credits:** 3
CMST 135 - Web Fundamentals **Credits:** 3
CMST 332 - Web Development Project **Credits:** 3
DIGME 137 - Fundamentals of Visual Communication **Credits:** 3
Choose One Of the Following:
CYBR 163 - Fundamentals of Design Thinking **Credits:** 3
CMST 252 - System and Software Fundamentals **Credits:** 3

Total Hours Required for Graduation: 61

Engineering Technology - Web Development Technology (AS) Academic Degree Map

First Year	Hours	K-State Core	
Semester 1			
CMST 135 - Web Fundamentals	3		
MATH 100 - College Algebra	3	**KSC 030**	
Arts and Humanities Requirement	3	**KSC 060**	
CYBR 103 - Computing Principles	3		
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			
Semester 2			
CYBR 247 - Programming I	3		
CYBR 250 - Hardware and Network Fundamentals	3		
ENGL 100 - Expository Writing I	3	**KSC 010**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Free Electives {Institutionally Designated Area}	3	**KSC 070**	
Total Credits: 15			

Second Year			
Semester 1			
CYBR 335 - Programming II	3		
COMM 106 - Public Speaking I	3	**KSC 020**	
DIGME 137 - Fundamentals of Visual Communication	3		
CYBR 180 - Introduction to Database Systems	3		
Arts and Humanities Requirement	3	**KSC 060**	
Total Credits: 15			
Semester 2			
CMST 332 - Web Development Project	3		
ENGL 200 - Expository Writing II	3	**KSC 010**	
Social and Behavioral Sciences Requirement	3	**KSC 050**	
Natural and Physical Science Requirement	4	**KSC 040**	
Choose One Of The Following:	3		
CMST 252 - System and Software Fundamentals	[3]		
CYBR 163 - Fundamentals of Design Thinking	[3]		
Total Credits: 16			
Total Program Hours: 61			

Extended Reality Systems Design Undergraduate Certificate

The Extended Reality Systems Design Undergraduate Certificate is a program that explores the design and development of immersive experiences using augmented, virtual, and mixed reality technologies. Students learn to create cutting-edge XR applications and gain a deep understanding of XR hardware and software systems. This certificate equips graduates with the skills needed for careers in XR development, simulation design, and interactive media, making it a valuable credential in the field of extended reality.

Required Courses (12 credit hours)

CYBR 332 - 3D Design and Modeling for XR **Credits:** 3
CYBR 365 - User Experience (UX) Design for Immersive Systems **Credits:** 3
CYBR 443 - Interactive Systems Design for Virtual Reality (VR) **Credits:** 3
CYBR 445 - Interactive Systems Design for Augmented Reality (AR) **Credits:** 3

Immersive Digital Media Design Undergraduate Certificate

The Immersive Digital Media Design Undergraduate Certificate is an intensive and hands-on program designed to immerse students in the exciting world of digital media and design. This certificate program, typically completed in one to two years, offers a comprehensive curriculum that blends theory with practical skills. Learners delve into a wide range of creative and technical topics, including graphic design, 3D modeling, animation, virtual reality (VR), augmented reality (AR), and interactive media.

Required Courses (12 credit hours)

CYBR 137 - Principles of Interactive Digital Storytelling **Credits:** 3
CYBR 163 - Fundamentals of Design Thinking **Credits:** 3
CYBR 210 - Interactive Media Development **Credits:** 3
CYBR 320 - Foundations of Interactive Narratives **Credits:** 3

Total hours required: 12

Industrial Automation Undergraduate Certificate

This program is designed for individuals seeking to enhance their skills in automation technologies that drive efficiency, safety, and productivity across various industries. Students will gain practical experience with cutting-edge automation tools and systems, including robotics, control systems, and data analytics. Our industry-relevant curriculum will explore key topics such as programmable logic controllers (PLCs), industrial networking, sensor technologies, and automated process control. Students will be well-prepared for roles in manufacturing, logistics, and process industries, where they can implement automation solutions to streamline operations, improve safety measures, and boost overall productivity.

Required Courses: 12 Credit Hours

ECET 304 - Electric Power and Devices **Credits:** 3
MET 382 - Industrial Instrumentation and Controls **Credits:** 3
MET 481 - Automated Manufacturing Systems II **Credits:** 3
RAS 385 - Advanced Programmable Logic Controllers **Credits:** 3

Electives: 6 Hours

Choose 6 hours from the following list.

ECET 301 - Circuits II **Credits:** 4
ECET 320 - Electronic Communication Systems **Credits:** 3
ECET 330 - Industrial Controls **Credits:** 4

ECET 335 - Industrial Control Topics **Credits:** 1
ECET 340 - Electronic Manufacturing **Credits:** 3
ECET 350 - Microprocessor Fundamentals **Credits:** 3
ECET 352 - Digital Circuits and Systems **Credits:** 3
ECET 354 - Microcontroller Applications **Credits:** 3
ECET 414 - Electromagnetic Applications **Credits:** 4
ECET 420 - Communication Circuits Design **Credits:** 3
ECET 421 - Telecommunication Systems **Credits:** 4
ECET 430 - Signals and Systems **Credits:** 3
ECET 450 - Digital Systems and Computer Architecture **Credits:** 4
ECET 499 - Advanced Topics in Electronic and Computer Engineering Technology **Credits:** 1-18
MET 382 - Industrial Instrumentation and Controls **Credits:** 3
MET 481 - Automated Manufacturing Systems II **Credits:** 3
RA 305 - Robotics Programming **Credits:** 3
RA 357 - Machine Vision **Credits:** 3
RA 444 - Integrated Robotics Studio **Credits:** 0-2
RAS 385 - Advanced Programmable Logic Controllers **Credits:** 3
MET 314 - Finite Element Analysis and Design Modeling **Credits:** 3
MET 325 - Additive Manufacturing **Credits:** 3
MET 333 - Advanced Material Science **Credits:** 3
MET 336 - Dynamics of Machines **Credits:** 3
MET 346 - Elements of Mechanisms **Credits:** 3
MET 353 - Fluid Mechanics **Credits:** 3
MET 365 - Machine Design Technology II **Credits:** 3
MET 381 - Quality Control **Credits:** 3
MET 410 - Managerial and Project Economics **Credits:** 3
MET 460 - Tool Design for Manufacturing **Credits:** 3
MET 471 - Thermodynamics and Heat Transfer **Credits:** 4
MET 499 - Advanced Topics in Mechanical Engineering Technology **Credits:** 1-18

Total Hours Required: 18

Industrial Robotics and Automation Undergraduate Certificate

The Industrial Robotics and Automation Certificate prepares students for careers in advanced manufacturing and automation by providing hands-on experience and technical knowledge in robot systems and industrial control. This program emphasizes the integration of robotics, programming, and machine vision into automated manufacturing environments.

Required Courses: (13 credit hours)

MET 230 - Automated Manufacturing Systems I **Credits:** 3
MET 240 - Industrial Robotics Laboratory **Credits:** 2
RA 305 - Robotics Programming **Credits:** 3
RAS 358 - Industrial Inspection Systems **Credits:** 2
RAS 385 - Advanced Programmable Logic Controllers **Credits:** 3

Total Hours Required: 13

Interactive 3D Application Design Undergraduate Certificate

The Interactive 3D Application Design Undergraduate Certificate offers a specialized curriculum focusing on the creation of immersive and interactive 3D applications. Students gain hands-on experience in 3D modeling, animation, and game design. They learn to develop interactive experiences for various platforms, including virtual reality and augmented reality. Graduates are equipped with the skills needed for careers in game development, simulation design, or interactive media production, making this certificate a valuable credential for those pursuing a career in the exciting world of 3D application design.

Required Courses (15 credit hours)

CYBR 310 - 3D Animation and Asset Production for XR **Credits:** 3
CYBR 322 - Multi-platform Interactive Media Design **Credits:** 3
CYBR 330 - Interactive Game and Audio Design **Credits:** 3
CYBR 332 - 3D Design and Modeling for XR **Credits:** 3
CYBR 360 - Foundations of Game Engine Design and Development **Credits:** 3

Total hours required: 15

Robotics Design and Fabrication Undergraduate Certificate

The Robotics Design and Fabrication Certificate provides hands-on training and foundational knowledge in the essential areas of robot system development. Students gain expertise in designing and building robot systems by integrating mechanical, electrical, and digital components. This certificate emphasizes practical skills in power systems, advanced manufacturing techniques, and electronics assembly while fostering creativity in robot design and fabrication.

Required Courses: (13 Credit Hours)

ECET 340 - Electronic Manufacturing **Credits:** 3
RAS 225 - Robot Power Systems **Credits:** 3
RAS 335 - Digital Manufacturing **Credits:** 3
RAS 348 - Mobile Robotics Fabrication Studio **Credits:** 1
RAS 415 - Robot Design and Kinematics **Credits:** 3

Total Hours Required: 13

Spatial Computing Design Undergraduate Certificate

The Spatial Computing Design Undergraduate Certificate is a focused program that empowers students with the skills to develop applications and software for spatial computing environments, such as augmented reality and virtual reality. Through hands-on training, students learn to code for immersive experiences and work with cutting-edge technology. Graduates are well-prepared for careers as spatial computing developers and programmers, making this certificate a valuable credential in the rapidly growing field of spatial computing.

Required Courses (12 credit hours)

CYBR 250 - Hardware and Network Fundamentals **Credits:** 3
CYBR 366 - Cyber Security Operations **Credits:** 3

CYBR 457 - Intelligent Spatial Computing Systems **Credits:** 3
CYBR 459 - Real-time Computing Systems **Credits:** 3

Total hours required: 12

STEM Foundations Minor

The STEM Foundations Minor is created for students interested in a foundational knowledge in science, mathematics, and computing technology in addition to their major field of study.

To complete the STEM Foundations minor, students must graduate from Kansas State University and complete the STEM courses listed below.

No more than six hours of transfer courses may be used. Students must achieve a cumulative 2.50 GPA in the required courses to complete the minor. Courses may not be taken pass/fail apart from "credit for prior learning".
Note: All courses applied to the minor must have a grade of "C" or better apart from "credit for prior learning".

Required Courses (24 credit hours)

BIOL 198 - Principles of Biology **Credits:** 4
CHM 110 - General Chemistry **Credits:** 3
CHM 111 - General Chemistry Laboratory **Credits:** 1
CMST 190 - Information Engineering for Data Science **Credits:** 1
CMST 290 - Scientific Programming and Machine Learning **Credits:** 1
GEOL 125 - Natural Disasters **Credits:** 3
MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
MLAS 100 - Survey of Machine Learning and Autonomous Systems **Credits:** 3
PHYS 114 - General Physics II **Credits:** 4

Total Hours Required: 24

Mary Lynn and Warren Staley School of Leadership Studies

Mary Tolar, Dean

257 Leadership Studies Building
785-532-6085
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www.k-state.edu/leadership/

Since its inception in 1997, the Staley School of Leadership strives to fulfill each part of its mission statement: developing knowledgeable, ethical, caring, inclusive leaders for a diverse and changing world. We invite all to become a part of the Leadership Studies community and together we will continue to discover ways to learn about and engage fully in the mission of our program.

The School of Leadership continues to develop and grow. Grounded by its progressive spirit, commitment to collaboration, and devotion to a student-centered learning community, the School is building critical infrastructure to advance our programs and contribute to the discipline. By understanding, honoring, and preserving what works well, the School is creating a future for Leadership Studies that values its legacy as a necessary component of successful innovation. As we continue to engage students

in the central questions of purpose and values, highlight the need for ethical leaders at all levels, share a desire for all of us to commit to a lifetime of service and civic engagement, and open students to the need to continually learn and affirm different people and cultures--we are extending our legacy to the future.

A minor in Leadership Studies complements an academic major by combining theory and practice with an emphasis on personal leadership development. In addition to the minor, we have a certificate in nonprofit leadership. The Nonprofit Leadership Certificate will develop an individual's leadership capacity to better work, serve, and lead in nonprofit organizations. Drawing from leadership development theory and best practices, graduates will gain tangible skills in understanding the nonprofit sector and the unique considerations of leading within it.

The secondary major in Global Food Systems Leadership is intended for students who want to study and exercise leadership on the grand challenges of feeding a growing world population through a systems thinking approach. An interdisciplinary team from Kansas State University created the program with the goal of helping students enhance their preparation for a diverse range of careers that require integrated knowledge of the global food system and the leadership capacity to skillfully intervene to change the system for the common good.

The Leadership Communication doctoral program started in fall of 2018. The Leadership Communication program is an interdisciplinary research degree. This Doctor of Philosophy degree is rooted in leadership practices and communication processes that can be used to make progress on the most difficult challenges of our times. Through the study and practice of leading change students will produce original research that is grounded in community-engaged scholarship.

Our Programs-Service and Civic Engagement

The Staley School of Leadership is also focused on students' service and civic engagement and offers various programs for students (and faculty) to enhance social responsibility, citizenship, and awareness of community needs to improve the quality of life–on campus, in the community, and across the world.

Academic Mentoring
Applied Learning Experiences (ALE) Ambassadors
Coffman Leadership Institute
Food Security Scholars
HandsOn Kansas State
Service Teams Staley School of Leadership Studies Ambassadors
Student Coordinators
LEAD 212 Class Leaders
Snyder School of Leadership Studies Leadership Legacy Fellows

Staley School of Leadership

Community-Engaged Leadership Undergraduate Certificate

Requirements

LEAD 510 - Foundations of Community-Engaged Leadership **Credits:** 3
LEAD 520 - Approaches to Community-Engaged Leadership **Credits:** 3
LEAD 560 - Experiences in Community-Engaged Leadership **Credits:** 6

Total credit hours: 12

Global Food Systems Leadership Secondary Major

Core Courses (9 credit hours)

All students must complete the following three courses.

DAS 225 - Fundamentals of Global Food Systems Leadership **Credits:** 3
DAS 325 - Uncertainty in Global Food Systems Leadership **Credits:** 3
GENAG 225 - Fundamentals of Global Food Systems Leadership **Credits:** 3
GENAG 325 - Uncertainty in Global Food Systems Leadership **Credits:** 3
GENAG 425 - Global Food Systems Leadership in Action **Credits:** 3
LEAD 225 - Fundamentals of Global Food Systems Leadership **Credits:** 3
LEAD 325 - Uncertainty in Global Food Systems Leadership **Credits:** 3
LEAD 425 - Global Food Systems Leadership in Action **Credits:** 3

Food and Agriculture Courses (6 credit hours)

Students would select a minimum of 6 credit hours from the list:

AGEC 315 - Contemporary Issues in Global Food and Agricultural Systems **Credits:** 3
AGEC 710 - Comparative Food and Agriculture Systems **Credits:** 3
AGRON 120 - Crop Science **Credits:** 3
ASI 102 - Principles of Animal Science **Credits:** 3
ASI 350 - Meat Science **Credits:** 3
ASI 595 - Current Issues in Animal Science **Credits:** 3
ENTOM 101 - Insects and People **Credits:** 3
FDSCI 202 - Introduction to Food Science **Credits:** 3
FNDH 400 - Human Nutrition **Credits:** 3
GENAG 690 - Seminar in International Agriculture **Credits:** 1
GRSC 101 - Fundamentals of Grain Processing **Credits:** 3
HORT 201 - Principles of Horticultural Science **Credits:** 4
HORT 325 - Introduction to Organic Farming **Credits:** 2

Areas of Concentration (9 credit hours)

All students must complete 9 credit hours from one of the following areas of concentration.

Policy

AGEC 411 - Agricultural Policy **Credits:** 3
AGEC 610 - Current Agriculture and Natural Resource Policy Issues **Credits:** 3
FNDH 600 - Public Health Nutrition **Credits:** 3
HIST 533 - Topics in the History of the Americas **Credits:** 1-3
POLSC 145 - World Politics **Credits:** 3
POLSC 307 - Introduction to Public Administration **Credits:** 3
POLSC 511 - Contemporary Chinese Politics **Credits:** 3
POLSC 647 - International Law **Credits:** 3

POLSC 651 - International Organization **Credits:** 3
SOCIO 363 - Global Problems **Credits:** 3
SOCIO 507 - International Development and Social Change **Credits:** 3
SOCIO 533 - Society, Food, and Agriculture **Credits:** 3
SOCIO 536 - Society and Natural Resources **Credits:** 3

Community Engagement

ANTH 613 - Gender, Power, and International Development **Credits:** 3
CNRES 531 - Interpersonal Conflict Resolution **Credits:** 3
CNRES 532 - Conflict Resolution across Cultures & Contexts **Credits:** 3
CNRES 536 - Conflict and Trauma in International Settings **Credits:** 3
COMM 465 - Communication and Conflict **Credits:** 3
COMM 480 - Intercultural Communication **Credits:** 3
PLAN 215 - World Cities **Credits:** 3
PLAN 660 - Community Development Planning **Credits:** 3
PLAN 740 - Small Community and Rural Area Planning **Credits:** 3
SOCIO 633 - Gender, Power, and Development **Credits:** 3

Sustainability of Natural Resources

AGCOM 712 - Environmental Communication **Credits:** 3
AGRON 205 - Soils **Credits:** 3
AGRON 335 - Environmental Quality **Credits:** 3
AGRON 375 - Nutrient Cycling and Fertilizer Management **Credits:** 3
ATM 558 - Hydrology and Soil Erosion Management **Credits:** 3
ATM 661 - Watershed Assessment and Management **Credits:** 3
BAE 560 - Hydrology for Biological Systems **Credits:** 3
BIOL 263 - Ecology of Environmental Problems **Credits:** 3
BIOL 529 - Ecology **Credits:** 3
CHM 315 - Environmental Science: A Chemistry Perspective **Credits:** 3
GEOG 121 - Introductory Physical Geography: Earth Systems Science **Credits:** 3
GEOG 340 - Natural Resources **Credits:** 3
GEOG 360 - Sustainability Concepts & Issues **Credits:** 3
GEOG 460 - Human Dimensions of Global Change **Credits:** 3
GEOG 761 - Human Impact on the Environment **Credits:** 3
HIST 511 - Environmental History **Credits:** 3
HIST 598 - Topics in Non-Western History **Credits:** 1-3
HORT 790 - Sustainable Agriculture **Credits:** 2
HORT 791 - Urban Agriculture **Credits:** 2
PMC 275 - Introduction to Natural Resource Management **Credits:** 3

Economics and Entrepreneurship

AGEC 515 - Food and Agribusiness Marketing **Credits:** 3
AGEC 525 - Natural Resource and Environmental Economics **Credits:** 3
AGEC 570 - Food Manufacturing, Distribution, and Retailing Economics **Credits:** 3

AGEC 615 - Global Agricultural and Economic Development **Credits:** 3
AGEC 623 - International Agricultural Trade **Credits:** 3
AGEC 632 - Agribusiness Logistics **Credits:** 3
ECON 681 - International Trade **Credits:** 3
ECON 682 - Development Economics **Credits:** 3
ENTRP 520 - Social Entrepreneurship **Credits:** 3
MKTG 325 - International Marketing **Credits:** 3
POLSC 341 - Politics of the World Economy **Credits:** 3
SOCIO 507 - International Development and Social Change **Credits:** 3

Food Production and Processing

ASI 310 - Poultry and Poultry Product Evaluation **Credits:** 2
ASI 361 - Meat Animal Processing **Credits:** 3
ASI 370 - Principles of Meat Evaluation **Credits:** 2
ASI 405 - Fundamentals of Milk Processing **Credits:** 3
ASI 495 - Advanced Meat Evaluation **Credits:** 2
ASI 308 - Dairy Foods Processing and Technology **Credits:** 3
ASI 610 - Processed Meat Operations **Credits:** 2
ASI 640 - Poultry Products Technology **Credits:** 3
ASI 671 - Meat Selection and Utilization **Credits:** 2
ASI 777 - Meat Science and Muscle Biology **Credits:** 3
FDSCI 305 - Fundamentals of Food Processing **Credits:** 3
FDSCI 660 - International Study Experience in Food Science **Credits:** 0-6
FDSCI 690 - Principles of HACCP and Preventive Controls for Human Food **Credits:** 3
FNDH 400 - Human Nutrition **Credits:** 3
FNDH 313 - Science of Food **Credits:** 4
GRSC 150 - Principles of Milling **Credits:** 2
GRSC 151 - Principles of Milling Laboratory **Credits:** 1
GRSC 405 - Grain Analysis Techniques **Credits:** 2
GRSC 602 - Cereal Science **Credits:** 3
GRSC 635 - Baking Science I **Credits:** 2
GRSC 636 - Baking Science I Laboratory **Credits:** 2
GRSC 637 - Baking Science II **Credits:** 3
GRSC 638 - Baking Science II Laboratory **Credits:** 1
HIST 557 - History of American Agriculture **Credits:** 3
HORT 520 - Fruit Production **Credits:** 3
HORT 560 - Vegetable Crop Production **Credits:** 3
HORT 725 - Postharvest Technology and Physiology of Horticultural Crops **Credits:** 3

Total Requirements (24 credit hours)

Leadership Studies Undergraduate Certificate

K-State's certificate in leadership studies focuses on developing knowledgeable, ethical, caring, and inclusive leaders through information sharing and practical experiences. The courses will provide you with an understanding of historic and contemporary theories and models of leadership while exploring the relationship among community service, inclusiveness, ethics, followership, and leadership.

Program requirements

The certificate requires 15 credit hours. Some of these courses may already be part of your major, while others will be courses taken to enhance your program of study. Four core courses are required:

LEAD 200 - Foundations of Leadership of Society **Credits:** 1-3
LEAD 212 - Introduction to Leadership Concepts **Credits:** 2-3 (The 3-hour version of LEAD 212 is required.)
LEAD 213 - Applied Leadership Skills **Credits:** 3
LEAD 350 - Culture and Context in Leadership **Credits:** 3
LEAD 405 - Leadership in Practice **Credits:** 3
LEAD 450 - Capstone in Leadership **Credits:** 3

Additional Requirements

You must earn 3 additional credit hours to complete the certificate from the following list of courses:

AERO 310 - Officer Leadership Studies 3A **Credits:** 3
AERO 311 - Officer Leadership Studies 3B **Credits:** 3
AGEC 318 - Food and Agribusiness Management **Credits:** 3
AGEC 599 - Food and Agribusiness Management Strategies **Credits:** 3
AGEC 610 - Current Agriculture and Natural Resource Policy Issues **Credits:** 3
AMETH 160 - Introduction to American Ethnic Studies **Credits:** 3
AMETH 560 - Topics in American Ethnic Studies **Credits:** 3
ANTH 513 - Immigrant America **Credits:** 3
ARCH 753 - Foundations of Practice **Credits:** 3
ARCH 765 - Advanced Problems in Architecture **Credits:** 1-18
ASI 422 - Livestock Sales Management **Credits:** 0-1
ASI 595 - Current Issues in Animal Science **Credits:** 3
CNRES 531 - Interpersonal Conflict Resolution **Credits:** 3
CNRES 532 - Conflict Resolution across Cultures & Contexts **Credits:** 3
COMM 311 - Business and Professional Speaking **Credits:** 3
COMM 320 - Theories of Human Communication **Credits:** 3
COMM 321 - Advanced Public Speaking **Credits:** 3
COMM 323 - Nonverbal Communication **Credits:** 3
COMM 325 - Argumentation and Debate **Credits:** 3
COMM 326 - Group Communication **Credits:** 3
COMM 425 - Organizational Communication **Credits:** 3
COMM 434 - Rhetoric and Social Movements **Credits:** 3
COMM 480 - Intercultural Communication **Credits:** 3
COMM 525 - Argumentation Theory **Credits:** 3
COMM 535 - Communication and Leadership **Credits:** 3
COMM 545 - Communication in Democracy **Credits:** 3
DEN 325 - Engineering Professionalism and Decision Making **Credits:** 1
DEN 450 - Impact of Technology on Society **Credits:** 3
ECON 640 - Industrial Organization and Public Policy **Credits:** 3
EDCEP 311 - Interaction and Guidance for the Paraprofessional **Credits:** 3
EDCI 315 - Educational Psychology **Credits:** 3
EDSEC 525 - Interpersonal Relations in the Schools **Credits:** 1

GENAG 450 - Citizenship and Ethics in Agriculture **Credits:** 3
GWSS 105 - Introduction to Gender, Women, and Sexuality Studies **Credits:** 3
HDFS 301 - Interpersonal Skills for Helping Professionals **Credits:** 3
IHS 310 - Foundations of Integrative Human Sciences **Credits:** 3
IMSE 501 - Industrial Management **Credits:** 3
LAR 298 - Ethics and Environmental Dilemmas **Credits:** 3
LEAD 213 - Applied Leadership Skills **Credits:** 3
LEAD 251 - Honors Leadership I **Credits:** 3
LEAD 312 - Peer Leader Practicum **Credits:** 0-3
LEAD 320 - Theories of Leadership **Credits:** 3
LEAD 420 - Theories of Nonprofit Leadership **Credits:** 3
LEAD 430 - Women and Leadership **Credits:** 3
LEAD 499 - Nonprofit Organization Internship **Credits:** 3
MANGT 520 - Organizational Behavior **Credits:** 3
MANGT 550 - Organizational Training and Development **Credits:** 3
MANGT 595 - Strategic Management **Credits:** 3
MANGT 596 - Business Ethics and Corporate Citizenship **Credits:** 3
MC 720 - Ethics in Mass Communications **Credits:** 3
MSCI 200 - Self/Team Development **Credits:** 1-18
MSCI 301 - Leading Small Military Organizations I **Credits:** 1-18
MSCI 302 - Leading Small Military Organizations II **Credits:** 1-18
MSCI 401 - Leadership Challenges and Objective-Setting **Credits:** 1-18
PHILO 115 - Introduction to Philosophy of Religion **Credits:** 3
PHILO 130 - Introduction to Moral Philosophy **Credits:** 3
PHILO 135 - Introduction to Social and Political Philosophy **Credits:** 3
PHILO 160 - Introduction to Philosophy of Law **Credits:** 3
PHILO 185 - Engineering Ethics **Credits:** 3
PHILO 330 - Moral Philosophy **Credits:** 3
PHILO 365 - Medical Ethics **Credits:** 3
PHILO 380 - Philosophy and Race **Credits:** 3
PHILO 390 - Business Ethics **Credits:** 3
PHILO 525 - Social-Political Philosophy **Credits:** 3
PHILO 665 - Philosophy of Economics **Credits:** 3
PLAN 115 - Introduction to Regional and Community Planning **Credits:** 3
POLSC 343 - American Foreign Policy **Credits:** 3
POLSC 377 - Introduction to Public Policy **Credits:** 3
POLSC 545 - The Politics of Developing Nations **Credits:** 3
POLSC 606 - Gender and Politics **Credits:** 3
POLSC 661 - Ancient and Medieval Political Thought **Credits:** 3
POLSC 663 - Early Modern Political Thought **Credits:** 3
POLSC 711 - Administrative Ethics **Credits:** 3
POLSC 735 - Public Organization Theory **Credits:** 3
POLSC 754 - The Professional Diplomat and Foreign Policy Formulation **Credits:** 3
PSYCH 520 - Life Span Personality Development **Credits:** 3
PSYCH 560 - Personnel Psychology **Credits:** 3
PSYCH 563 - Gender Issues in the Workplace **Credits:** 3
PSYCH 564 - Psychology of the Workplace **Credits:** 3
PMC 690 - Parks and Recreation Administration **Credits:** 4
SOCIO 510 - Social Welfare as a Social Institution **Credits:** 3

SOCIO 670 - Diversity and Social Interaction in the Workplace **Credits:** 3
SOCWK 510 - Social Welfare as a Social Institution **Credits:** 3
THTRE 265 - Fundamentals of Improvisation I, II **Credits:** 3
THTRE 664 - Creative Drama **Credits:** 3
THTRE 673 - Theatre for Conflict Resolution **Credits:** 3

Total Hours Required: 15

Nonprofit Leadership Studies Undergraduate Certificate

The Certificate in Nonprofit Leadership equips students to serve as nonprofit executives, staff, board members, and more. This certificate will develop capacity for effective leadership in nonprofit organizations regardless of one's career or role in nonprofit work. Students will learn best practices for nonprofit organizations and apply that learning in work with local community organizations. Students pursuing the certificate will engage with nonprofit executive directors, service-learning pedagogy, volunteer and event management experiences, and more. They will also have the option to become Certified Nonprofit Professionals; the nationally-recognized credential from the Nonprofit Leadership Alliance. This 12-credit-hour certificate provides students with the organizational knowledge, interpersonal confidence, and leadership experience needed to make change on the grand challenges facing our world.

Required Courses (9 credit hours)

LEAD 350 - Culture and Context in Leadership **Credits:** 3
LEAD 420 - Theories of Nonprofit Leadership **Credits:** 3
LEAD 499 - Nonprofit Organization Internship **Credits:** 3

Elective Courses (3 credit hours)

Choose from one of the following:

LEAD 212 - Introduction to Leadership Concepts **Credits:** 2-3
ENTRP 340 - Business Innovation and the Entrepreneurial Mindset **Credits:** 3
ENTRP 520 - Social Entrepreneurship **Credits:** 3
HDFS 301 - Interpersonal Skills for Helping Professionals **Credits:** 3
MANGT 220 - Principles of Management **Credits:** 3
MANGT 450 - Non-Profit Management **Credits:** 3
POLSC 307 - Introduction to Public Administration **Credits:** 3

Total Hours Required: 12

University Honors Program

The University Honors Program, or the UHP, encourages students to grow in the intellectual craft of scholarship. Through cultural and performing arts events, skill-development workshops, travel opportunities, and challenging course work, UHP students will increase their intellectual curiosity about the world, its wonders and its complexity. The UHP will challenge students to reach their full potential as scholarly, competent and fulfilled leaders.

Admission requirements

Incoming Freshman:

Admission into the UHP is competitive and based on a holistic evaluation. The UHP will take the following into consideration:

- High School GPA
- SAT/ACT (optional)
- AP/IB / college concurrent courses (optional)
- Activities and work experience
- Completion of the UHP application

All essential components of the application, and optional components when furnished, are used to reach a final decision.

Current K-State and Transfer Student Admission:

Current students and transfer students must meet the following criteria:

- K-State or Transfer GPA of 3.5
- Completion of the UHP application

Students must maintain a 3.5 GPA and make satisfactory progress toward fulfilling program requirements to remain in good standing in the UHP.

Completion requirements

1. Orientation: One (1) introductory course –1 credit

UHP students will complete the following course:

UHP 189 Honors First-Year Seminar. Newly matriculated UHP students select from a variety of sections. Course topics will vary, but each will emphasize intellectual and scholarly engagement as well as introduce students to UHP particulars.

2. Courses: Four (4) for-credit academic courses – 12 credits minimum

At least four UHP-eligible courses must be completed for credit for a minimum of twelve credit hours. UHP students will have the flexibility to choose from a menu of three eligible options:

- UHP-designated courses (e.g., Honors Chemistry, Honors Introduction to the Humanities) that carry course credit.
- Contract courses (i.e., a regular for-credit course where the student and instructor agree upon additional scholarly expectations and outcomes).
- Course credits taken for undergraduate research.

3. Experiences: Three (3) co-curricular experiences and/or additional for-credit academic courses – total credits will vary: no minimum.

This requirement accommodates multiple forms of experimental learning, co-curricular enrichment, and/or additional UHP-eligible coursework. Eligible co-curricular experiences will include items such as study abroad, International Service Teams participation, undergraduate research, internships, participation on a university competition team, and work as a teaching assistant.

The UHP will develop and maintain guidelines for what constitutes a qualifying experience, including a menu of options. Other experiences may also be proposed, pending the approval of the relevant College coordinator and the UHP staff.

In brief, eligible experiences will require students to intentionally reference and integrate knowledge from their curriculum in an applied fashion and involve active accountability (supervision, mentorship, instruction, etc.). Thus, eligible co-curricular experiences are not intended to encompass routine participation or leadership in campus clubs or "student life" activities.

Students may also choose to complete additional UHP-eligible and for-credit academic courses in this category.

4. Project: One (1) independent UHP scholarly project – 0-3 credits.

Students can select one of four tracks to complete their UHP Project. Each track emphasizes integrative, independent learning and skill development.

- Research track – A traditional "honors thesis" where students complete research under the supervision of faculty members.
- International track – Project based upon study or service abroad for a minimum duration of ten weeks.
- Professional track –Project based upon a full-time internship or co-op experience for a minimum durations of ten weeks. Two distinct internships with a single employer may also be used as the basis for a project, provided they total at least ten weeks (with UHP approval granted before the second internship).
- Creative track – Project based upon the creation of original creative work, principally for students in the fine and performing arts for whom artistic production is an essential scholarly activity.

All four tracks will require a significant intellectual product that is supervised and approved by a K-State mentor with appropriate expertise. All proposals and completed projects must also be approved by the mentor, the College coordinator and the UHP.

Project approval must be obtained prior to beginning the proposed project.

Transfer Credit Policy

We encourage high-achieving transfer students to apply for the University Honors Program. To qualify for the program, transfer applicants must have a 3.5 GPA from their transfer institution.

Students may transfer honors courses from another accredited college or university to fulfill some of the Honors Program requirements. At a minimum the following must be completed at K-State:

- At least two courses or co-curricular experiences
- The honors project

The UHP 189 : Honors First-Year Seminar requirement may be satisfied through the transfer of an equivalent course from another institution. Transfer students who have not taken an equivalent course may still take UHP 189 at K-State or, in consultation with the UHP, petition to make an appropriate substitution.

Additional Notes:

- Students may not "double dip" by counting any single course or activity in more than one UHP requirement category.
- In both the "Experiences" and "Project" categories, experiences such as internships, if they are required parts of a student's declared major, may only satisfy a UHP requirement if an additional enrichment and/or intellectual product is agreed upon and verified.
- Transfer students who completed Honors coursework at another institution will have the opportunity to petition the UHP Director to apply those credits towards the completion of UHP course requirements.
- The completion of graduate-level coursework above and beyond the stated requirements of the student's declared major may be counted for UHP credit through the process of course contracting.

For more information
www.k-state.edu/ksuhonors
E-mail: ksuhonors@k-state.edu

College of Veterinary Medicine

Beth Davis, Interim Dean
James Roush, Associate Dean for Academic Programs
Dana Vanlandingham, Associate Dean for Research and Graduate Programs
Priscilla Roddy, Assistant Dean, Administration and Finance
Callie Rost, Assistant Dean for Admissions

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www.vet.k-state.edu

General Requirements

Admission

Admission into the College of Veterinary Medicine is based upon a competitive process among qualified students who have completed the minimum 64 required hours of pre-professional courses (see pre-professional requirements). Minimum qualifications include a 2.8 GPA or greater average over the pre-professional requirements and over the last 45 hours of undergraduate college work. A grade below a C in a pre-professional requirement is not acceptable.

Personal interviews are required of any student under consideration. Selection is based upon academic achievement and professional potential as determined by grades, interview, application information, references, and GRE scores. Applicants are evaluated on such items as motivation, maturity, communication skills, experience with and knowledge of animals, and experience with and knowledge of veterinary medicine.

From June 1 to October 1, applications for admission to the professional curriculum can be obtained from the College of Veterinary Medicine website.

No applications are accepted after October 1.

Veterinary early admission program

High school seniors with ACT scores of 29 or higher or SAT scores of 1290 (combined critical reading and math scores) or higher are eligible to apply for the veterinary early admission program. An application can be obtained from the College of Veterinary Medicine website. Qualified applicants are interviewed by the admission committee.

Students in this program are guaranteed admission to the DVM degree program following completion of the prerequisites for the DVM degree program at Kansas State University (all classes following graduation from high school must be taken at K-State and a minimum of 3.4 GPA must be maintained).

Pre-professional requirements

The pre-professional work may be pursued at K-State in the College of Arts and Sciences or the College of Agriculture or in other academically accredited institutions.

Listed below are required courses:

Requirements

Course	Course Title	Credit Hours
ASI 500	Genetics	3
BIOCH 521	General Biochemistry	3
BIOL 198	Principles of Biology	4
BIOL 455	General Microbiology (and lab)	4
CHM 210	Chemistry I	4
CHM 230	Chemistry II	4
CHM 350	General Organic Chemistry	3
CHM 351	General Organic Chemistry Laboratory	2
COMM 105	Public Speaking IA	2
ENGL 100	Expository Writing I	3
ENGL 200	Expository Writing II	3
PHYS 113	General Physics I	4
PHYS 114	General Physics II	4
Social sciences and/or humanities		12
Electives		9
Total		64

All science courses (chemistry, physics, biology, and genetics) must have been taken within six years of the date of application. All pre-professional requirements must be graded.

A bachelor of science degree may be granted by the College of Agriculture or the College of Arts and Sciences upon completion of residency and academic requirements. Detailed information should be obtained from the dean's office of the appropriate college.

Fees for veterinary medical students

See the Fees section in this catalog.

Anatomy and Physiology

Johann Coetzee, Head

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www.vet.k-state.edu/depts/ap/

The Department of Anatomy and Physiology presents courses in cell and systemic physiology, gross and microscopic anatomy, pharmacology, and neuroscience for students enrolled in either the veterinary medicine curriculum or graduate school.

Cardiovascular physiology, immunophysiology, neuroscience, and pharmacology—major research themes within the department—are supported with modern research facilities and state-of-the-art research equipment.

Clinical Sciences

E. Davis, Head

A-111-D Mosier Hall
785-532-4890
Fax: 785-532-2252
E-mail: krdrew@vet.k-state.edu
www.vet.k-state.edu/depts/ClinicalSciences

Faculty in the Department of Clinical Sciences provide classroom, clinical and field instruction encompassing the diagnosis, management, and prevention of diseases in individuals and herds of domestic and exotic animals and wildlife. Our educational missions include the instruction of veterinary and graduate students, and of graduate veterinarians including interns and residents, in the disciplines of medicine, surgery, radiology, shelter medicine, theriogenology, anesthesiology, oncology, cardiology, dentistry, dermatology, ophthalmology, exotics, small animal emergency, and epidemiology, to prepare them for careers in private practice, education, industry, and biomedical research. Participation in these fourth-year clinical rotations allows students to interact with clients and faculty specialists in a state-of-the-art teaching hospital setting.

The scholarly activity of this department includes a range of basic and applied research that addresses clinically important problems that may not come to the attention of investigators outside the clinical setting. This kind of research draws upon the interests and experiences—and the daily activities—of the clinical faculty and its trainees, and it makes use of the caseload and other unique resources of the VHC. Research, teaching, and clinical activities in this department occur together and are inseparable.

Diagnostic Medicine/Pathobiology

Derek A. Mosier, Head

K-221 Mosier Hall
785-532-4401
Fax: 785-532-4039
E-mail: chengapa@vet.k-state.edu
www.vet.k-state.edu/depts/dmp/

Courses in pathology, parasitology, bacteriology, virology, immunology, public health, epidemiology, toxicology, and clinical pathology are offered for students enrolled in the veterinary medicine curriculum. Third- and fourth-year veterinary medical students receive practical instruction in clinical laboratory procedures and the interpretation of results of laboratory tests.

Courses in diseases of laboratory animals, wildlife, and fish are offered for non-veterinary undergraduate and graduate students.

The wide variety of research conducted in the department provides new information to enhance animal and human health. Major areas of focus include infectious diseases, immunology, parasitology, environmental toxicology, and diagnostic test development.

The department serves the livestock and companion animal industry by conducting investigational procedures to identify animal disease problems. The department's diagnostic laboratory is nationally recognized as fully accredited with capabilities in all areas of diagnostic medicine by AAVLD.

Accelerated Degree Programs

Accelerated Accounting (BSBA)/Master of Accountancy (MACC)

Accelerated Aeronautical Technology-Professional Pilot (BS)/Aeronautics (MS)

Accelerated Agricultural Economics - Farm Management (BS)/Agricultural Economics (MS)

Accelerated Agricultural Economics - Specialty (BS)/Agricultural Economics (MS)

Accelerated Animal Sciences and Industry - Management/Industry (BS)/Master of Business Administration (MBA)

Accelerated Animal Sciences and Industry - Pre-Veterinary/Science (BS)/Master of Business Administration (MBA)

Accelerated Applied Business and Technology - Applied Business (BS)/Integrated Systems Design and Dynamics (MS)

Accelerated Applied Business and Technology - Technology Management (BS)/Integrated Systems Design and Dynamics (MS)

Accelerated Architectural Engineering (BS)/Architectural Engineering (MS)

Accelerated Biochemistry (BS)/Biochemistry (MS)

Accelerated Biological System Engineering - Biological (BS)/Biological and Agricultural Engineering (MS)

Accelerated Biological System Engineering - Environmental (BS)/Biological and Agricultural Engineering (MS)

Accelerated Biological Systems Engineering - Machine Systems (BS)/Biological and Agricultural Engineering (MS)

Accelerated Biology - Animal Biology (BS)/Biology (MS)

Accelerated Biology - Cellular and Molecular Biology (BS)/Biology (MS)

Accelerated Biology - Computational Biology (BS)/Biology (MS)

Accelerated Biology - Ecology and Evolutionary Biology (BS)/Biology (MS)

Accelerated Biology - Human Health Biology (BS)/Biology (MS)

Accelerated Biology - Integrative Biology (BS)/Biology (MS)

Accelerated Biology - Plant Biology (BS)/Biology (MS)

Accelerated Business Administration (BSBA)/Data Analytics (MS)

Accelerated Business Administration (BSBA)/Master of Accountancy (MACC)

Accelerated Business Administration (BSBA)/Master of Business Administration (MBA)

Accelerated Chemistry (BS)/Adult Learning and Leadership (MS)

Accelerated Chemistry (BS)/Master of Business Administration (MBA)

Accelerated Civil Engineering - Construction (BS)/Civil Engineering (MS)

Accelerated Civil Engineering - Environmental (BS)/Civil Engineering (MS)

Accelerated Civil Engineering - General (BS)/Civil Engineering (MS)

Accelerated Civil Engineering - Geotechnical (BS)/Civil Engineering (MS)

Accelerated Civil Engineering - Structural (BS)/Civil Engineering (MS)

Accelerated Civil Engineering - Transportation/Material (BS)/Civil Engineering (MS)

Accelerated Civil Engineering - Water Resources (BS)/Civil Engineering (MS)

Accelerated Computer Science (BS)/Computer Science (MS)

Accelerated Computer Science (BS)/Master of Business Administration (MBA)

Accelerated Dietetics (BS)/Food, Nutrition, and Health (MS)

Accelerated Economics (BS)/Master Business Administration (MBA)

Accelerated Engineering Technology - Machine Learning and Autonomous Systems (BS)/Integrated Systems Design and Dynamics (MS)

Accelerated Entomology (BS)/ Entomology (MS)

Accelerated Fashion Studies - Fashion Business (BS)/Fashion Studies (MS)

Accelerated Fashion Studies - Fashion Design (BS)/Fashion Studies (MS)

Accelerated Finance (BSBA)/Personal Financial Planning (MS)

Accelerated Fisheries, Wildlife, Conservation, and Environmental Biology – Conservation Biology(BS)/Biology(MS)

Accelerated Fisheries, Wildlife, Conservation, and Environmental Biology – Environmental Biology(BS)/Biology(MS)

Accelerated Fisheries, Wildlife, Conservation, and Environmental Biology – Fisheries Ecology and Management(BS)/Biology(MS)

Accelerated Fisheries, Wildlife, Conservation, and Environmental Biology – Wildlife Ecology and Management(BS)/Biology(MS)

Accelerated Horticulture - Golf Course and Sports Turf Management (BS)/Horticulture and Natural Resources (MS)

Accelerated Horticulture - Horticulture Production (BS)/Horticulture and Natural Resources (MS)

Accelerated Horticulture - Landscape Horticulture (BS)/Horticulture and Natural Resources (MS)

Accelerated Horticulture - Science (BS)/Horticulture and Natural Resources (MS)

Accelerated Hospitality Management (BS)/Hospitality Administration (MS)

Accelerated Human Development and Family Science (BS)/Human Development and Family Science - Prevention Science (MS)

Accelerated Industrial Engineering (BS)/Industrial Engineering (MS)

Accelerated Integrative Physiology (BS)/Kinesiology (MS)

Accelerated Kinesiology (BS)/Kinesiology (MS)

Accelerated Mathematics - Actuarial Mathematics (BS)/Mathematics (MS)

Accelerated Mathematics - Applied Mathematics (BS)/Mathematics (MS)

Accelerated Mathematics - Pure Mathematics (BS)/Mathematics (MS)

Accelerated Mechanical Engineering (BS) / Master of Business Administration (MBA)

Accelerated Mechanical Engineering (BS)/Mechanical Engineering (MS)

Accelerated Mechanical Engineering (BS)/Nuclear Engineering (MS)

Accelerated Microbiology – General Microbiology (BS)/Biology(MS)

Accelerated Microbiology – Medical Microbiology(BS)/Biology(MS)

Accelerated Music (BA)/Master of Business Administration (MBA)

Accelerated Nutrition and Health (BS)/Food, Nutrition and Health (MS)

Accelerated Nutritional Sciences (BS)/Food, Nutrition, and Health (MS)

Accelerated Personal Financial Planning (BS)/Master of Business Administration (MBA)

Accelerated Personal Financial Planning (BS)/Personal Financial Planning (MS)

Accelerated Political Science (BA)/Master of Public Administration (MPA)

Accelerated Political Science (BA)/Security Studies (MA)

Accelerated Political Science (BS)/Master of Public Administration (MPA)

Accelerated Political Science (BS)/Security Studies (MA)

Accelerated Public Health (BS)/Kinesiology (MS)

Accelerated Public Health (BS)/Master of Public Health (MPH)

Accelerated Sociology (BA)/Sociology (MA)

Accelerated Sociology (BS)/Sociology (MA)

Accelerated Sports Nutrition (BS)/Food, Nutrition and Health (MS)

Accelerated Statistics and Data Science (BS)/Statistics (MS)

K-State Research and Extension

J. Ernie Minton, Director, K-State Research and Extension and Dean College of Agriculture
Martin Draper, Associate Dean for Research and Graduate Programs
Gregg Hadley, Associate Director for Extension

113 Waters Hall
785-532-6147
www.ksre.k-state.edu

K-State Research and Extension is dedicated to a safe, sustainable, and competitive food and fiber system and to strong, healthy communities, families, and youth through integrated research, analysis, and education.

K-State Research and Extension provides practical, research-based information and educational programs to address critical issues facing individuals, families, agricultural producers, business operators, and communities.

K-State Research and Extension is organized into the following core mission themes; agricultural industry competitiveness; food, nutrition, health, and safety; natural resources and environmental management; youth, family and community development.

One K-State Research and Extension partner, the Kansas Agricultural Experiment Station (KAES), conducts original research both on and off campus. Twenty-four departments in five colleges are involved. K-State Research and Extension is also strongly allied with the Graduate School in training graduate students; interested graduate students are encouraged to seek research assistantships. Many undergraduate students work for K-State Research and Extension, which greatly adds to the classroom experience. Off-campus research is centered at two research-extension centers, two research centers, and 10 experiment fields in various parts of the state.

The other K-State Research and Extension partner, the Cooperative Extension Service, provides an important learning bridge between the university and the people of the state. It applies scientific knowledge, principles, and practices to the grassroots problems of Kansans. At the same time, this unique information delivery system brings back requests for new knowledge to the research staff at the university.

The Cooperative Extension Service staffs four area offices (two operate as part of a Research/Extension Center) and helps maintain local extension offices, staffed by off-campus K-State faculty members, in all 105 Kansas counties.

Extension agents are responsible for conducting educational programs in the core mission themes. The agents serve as a local source of information regarding programs of many states and federal agencies, and then help people apply this information to their specific situation.

Information is published in scientific journals; in station bulletins, extension bulletins, national and international conferences; and in popular journals and news releases to the press and radio and television stations. Requests for station publications should be sent to the Distribution Center, Umberger Hall.

Agricultural Experiment Station

Western Kansas Agricultural Research Centers: Colby-Garden City-Hays
Robert L. Gillen, Head and Professor

Agricultural Research Center-Hays
Professors: Martin, Seifers, and Stahlman
Associate Professors: Harmoney and Kofoid
Assistant Professors: Jaeger and Michaud

Investigations are primarily related to plant and animal systems specific to western Kansas, where rainfall is limited. They include beef grazing, feeding, and breeding studies; crop improvement, with special emphasis on wheat and sorghum; soil management; weed control; plant disease; and insect management.

Northwest Research-Extension Center-Colby
Professor: Lamm; **Associate Professor:** Aiken

Major areas of research are crop improvement; soil management; irrigation; weed control; and horticulture.

Southwest ResearchExtension Center-Garden City and Tribune
Professors: Klocke and Schlegel
Associate Professors: Buschman and Currie

Current investigations involve irrigation research; dryland soil and crop management; crop improvement; weed control; insect and other pest control in crops; soil management; and environmental management for livestock operations.

Southeast Research Extension Center
J.D. McNutt, Head
Professors: Moyer and Sweeney; **Associate Professor:** Kelley; **Assistant Professor:** Long

Research focuses on soil and water conservation; crop improvement; weed control; beef cattle grazing investigations; and forages.

Experiment fields
The Kansas Agricultural Experiment Station includes 11 experiment fields: North Central Kansas (Belleville), Irrigation (Scandia), Sandyland (St. John), South Central Kansas (Hutchinson), Harvey County (Hesston), East Center (Ottawa), and Kansas River Valley Irrigation (Rossville and Silver Lake).

Experimental work is devoted to horticultural and forest crops at three fields: John Pair Horticultural Research Center (Wichita), Pecan Experiment Field (Chetopa), and East Central Horticulture Field (Olathe).

Affiliated agencies

Kansas Water Resources Research Institute
Cooperating with the Water Resources Institute, University of Kansas

The Kansas Water Resources Research Institute conducts basic and applied research on water use and to train scientists in water resources. Representatives of K-State and the University of Kansas participate in institute policy making and research. Research is focused on finding the most effective ways of conserving, using, and distributing available water.

Food Science Institute
Jeanette Thurston, Director

The Food Science Institute facilitates training of undergraduate and graduate students; basic and applied research initiatives; and technical and scientific information transfer to academia consumers, food industry, and governmental agencies. More than 40 faculty are members of the food science graduate faculty. Faculty are located in the Departments of Agronomy; Animal Sciences and Industry; Biochemistry; Chemical Engineering; Communications; Diagnostic Medicine/ Pathobiology; Entomology; Grain Science and Industry; Hotel, Restaurant, Institution Management and Dietetics; Human Nutrition; and Journalism and Mass Communications.

Center for Applied Statistics
George A. Milliken, Director

The Center for Applied Statistics provides consulting services for scientists associated with the Agricultural Experiment Station.

Kansas Center for Agricultural Resources and the Environment
Dan Devlin, Director

The Kansas Center for Agricultural Resources and the Environment (KCARE) is an interdisciplinary research and education unit of K-State Research and Extension whose purpose is to provide focus on environmental issues related to agriculture. The center works with faculty from academic departments to provide coordination and support for research and educational activities in natural resources and environmental management. The center also works to garner financial support for programs and serves as a single point of contact for agencies and organizations outside K-State who have interest in natural resource and environmental issues.

Kansas Center for Sustainable Agriculture and Alternative Crops

KCSAAC is an interdisciplinary center that supports family farms in Kansas through research, education, and outreach programs focusing on production, storage, processing, and marketing technologies that boost small farm profitability, protect natural resources, and enhance rural communities. Examples of activities include evaluating production and marketing of new crops for Kansas, providing educational programs on value-added processing and niche marketing, and providing educational programs on whole farm planning and environmental assessment. KCSAAC was created by the 2000 Kansas Legislature out of concern for the survival of family farms.

Plant Biotechnology Center
John Leslie, Director

The Plant Biotechnology Center links scientists in several colleges and departments who use molecular biology and cell and tissue culture to modify the plant genome. The center's mission is to use biotechnology to add quality and value to Kansas products.

The major emphasis is to develop systems, approaches, linkages, and a knowledge base to apply biotechnology to plant improvement. The goals are to enhance yield and product quality for traditional uses and to explore value-added uses for novel markets.

Projects include activities that are immediately important to Kansas agriculture and that have a high probability of success in a relatively short period of time. They also include a component of basic research that will reach application at a later time. An important consideration is work on Kansas plants and plant products that could be designed to better meet the demands of national and international markets.

Extension Agriculture and Natural Resources

Faculty in the Colleges of Agriculture and Engineering conduct educational programs and provide technical assistance through the county extension network to citizens throughout the state.

Interdisciplinary educational programs are conducted in water quality; natural resource use and conservation; community and economic development; value-added processing and production; food, feed, forage; animal production and utilization; and farm business and financial management.

Agricultural Economics

Allen Featherstone, Head
Glynn Tonsor, State Leader

Farm management
The extension educational program in farm management is divided into two areas: Kansas Farm Management Association programs and area and state farm management programs.

In the Kansas Farm Management Association program, farm management agricultural economists conduct an intensive educational program with approximately 3,000 Kansas farm families in the six farm management associations. The KFMA program website is www.AgManager.info/KFMA.

The extension farm management program is conducted by state specialists and area economists. It is done with in-depth educational programs in cooperation with the county extension agents. The area specialists conduct in-depth workshops in farm business management with farm families, provide a nearby reference resource for agents, and develop educational materials for agent use. Much of the program delivery occurs through our website at www.AgManager.info/KFMA.

Agricultural policy
The public affairs extension educational program provides educational information on policy issues of current interest. Problems are analyzed, alternatives and consequences examined, and the people are challenged to reach decisions.

The economic information program provides current data on factors affecting farming, business and industrial operations, labor supply and demand, and family living costs.

Extension marketing
The main projects of marketing include marketing information, agribusiness, and commodity marketing activities. News releases, monthly teleconferences, publications directed to the general public, and special information directed toward specific agricultural audiences are used to disseminate information.

Extension economic development
Extension economic development assists communities and businesses in development efforts. News releases, publications, and seminars are offered.

Extension local government
The extension local government programs provide direct educational assistance in the areas of structure, management, finance, and policy. The Office of Local Government serves as the primary unit providing outreach programming in this area.

Extension Agronomy

William Schapaugh, Interim Head

Extension agronomy conducts a statewide educational program in agricultural crop production and natural resource conservation. The program is focused on conservation and protection of natural resources through education and technology transfer that results in improved, stable crop production efficiency. The breadth of the program is in understanding the dynamics of crops, weeds, soils, and water on crop and grazing lands, management, and production.

Extension Animal Sciences and Industry

Michael Day, Head
Joel DeRouchey, State Leader

Extension specialists in animal sciences and industry provide leadership for state programs in beef cattle, dairy cattle, horses, poultry, sheep, swine, meats, dairy products, value-added food products, food safety, and wildlife damage control.

Extension Biological and Agricultural Engineering

Joseph P. Harner, Department Head and State Leader
Professors: Harner, Murphy, and Rogers; **Associate Professor:** Taylor; **Assistant Professor:** Wolf; **Emeriti Professor:** Clark, Jepsen, Koelliker, Powell, and Wendling.

Extension agricultural engineering conducts an educational program which relates to engineering principles to agricultural concerns including water management, water quality, waste management, crop and grain management systems, food processing, ag safety, pesticide application equipment, and livestock production facilities.

Community Vitality

Associate Specialist: Menon, Steen, Daniels, Rice; **Emeritus Associate Specialist:** McAdoo.

The Kansas PRIDE Community Improvement Program is a cooperative effort between government, education, and private industry to develop an organizational and leadership structure for community-wide volunteer action. The Kansas PRIDE program is jointly administered by the Kansas State University Cooperative Extension Service and the Kansas Department of Commerce and Housing.

Extension Entomology

Brian McCormack, Interim Head

Extension entomology is concerned with integrated insect and mite management or control for Kansas citizens. Pilot pest management projects are used to introduce and validate integrated approaches to managing pest populations.

Extension Grain Science and Industry

Gordon Smith, Head

Educational efforts target all sectors of the grain industry and include people involved with wheat breeding, production, grain handling, merchandising, processing, baking, feed manufacturing, and regulatory compliance. Two thrusts of this program include grain utilization and processing quality; and flour mill, feed mill, and grain elevator management. Subjects include wheat quality as it relates to milling and baking properties, commercial and on-farm grain storage and quality maintenance techniques, on-farm feed manufacturing, commercial feed processing, grain industry safety and regulatory compliance, plant sanitation, food safety, and grain grading.

Extension Horticulture, Forestry, and Recreation Resources

Steven Keeley, Interim Head
Jason Griffin, State Leader

Programs in extension horticulture and landscaping serve persons interested in fruits, nuts, vegetables, flowers, turf, shrubs, ornamental and shade trees, and forest and riparian management.

Extension Plant Pathology

Meghan Kennelly, Interim Head
Douglas J. Jardine, State Leader

Plant pathology extension specialists provide information about the occurrence and nature of plant diseases and the economic means for their control.

Youth, Family, and Community Development

Community Development

VACANT, Extension PRIDE Program Coordinator
Associate Specialists: Rice; **Emeritus Professor:** Frazier; **Emeritus Associate Specialist:** McAdoo.

An educated and knowledgeable citizenry is the foundation of our state's economic productivity, democratic charter and social system.

K-State programs inform and help people through research and extension build strong, healthy communities.

4-H Youth Development

Professor: Weber; **Associate Professor:** Potter, Jepsen, Seay; **Associate Specialist:** Wiebers; **Instructor:** Van Horn; **Extension Associate:** Hecht; **Emeriti Professors:** Apel, Bates, Busset, and Eyestone; **Emeriti Associate Professors:** Borst and Salmon.

The 4-H youth development program is a community of young people across Kansas who are learning leadership, citizenship and life skills. Utilizing a variety of delivery methods and trained volunteers, young people ages 7-19 are involved in hands-on learning experiences. Program priorities include science and technology, healthy lifestyles, and youth citizenship.

Family and Consumer Sciences

Family Studies and Human Services

Sonya Lutter, Head
Assistant Professor: Johannes; **Emeritus Professor:** Bradshaw.

Extension programs address a wide range of issues that help strengthen families and youth across Kansas. Programs teach families about financial planning, parenting, family communication, health, and aging issues.

Food, Nutrition, Dietetics, and Health

Mark Haub, Head
Tanda Kidd, Extension State Leader
Professor: Medeiros; **Associate Professor:** Higgins; and **Assistant Professor:** Kidd.

Healthy eating and physical activity education across the lifespan is available through local extension offices in Kansas. Food, nutrition, dietetics, and health faculty lead programming for nutrition for pregnancy, infants, children and youth, adults, and seniors. All of these include programming for limited resource families and individuals.

Services and Facilities

Communications

Jason Ellis, Head

In addition to its teaching and research program, the Department of Communications provides comprehensive communications and computer-based technology support and consultation for all offices, departments, and centers in K-State Research and Extension and the College of Agriculture.

Our faculty have professional experience in editing and producing publications, creating graphic design, writing news releases, producing radio and television news and features, managing information systems, training to enhance communication and technology software skills, and duplicating and distributing educational materials.

Extension Field Operations

James L. Lindquist, Associate Director
Professor Emeriti: Cox and Van Meter; **Associate Professor Emeriti:** Albright and McReynolds.

The Extension Field Operations office provides leadership as a resource and support to the area director team. It provides leadership for organizational guidelines, policy and centralized functions in support of out-state local operations, and professional development of effective boards and councils.

Northeast Regional

Chris Onstad, Regional
Professor: Duncan; **Instructors:** Flaming-Jackson, Graber, and Mack; **Instructor Emeriti:** Christian and Domsch.

Northwest Research-Extension Center

Aliesa Woods, Regional Director
Associate Professors: Barker, Johnson, O'Brien, and Olson; **Instructors:** Falk; **Assistant Professor Emeriti:** Mikesell and Overley; **Director Emeritus:** White.

Southeast Research-Extension Center

J. D. McNutt, Director
Professor: Price; **Instructor:** Hinshaw; **Assistant Professor:** Shoup; **Professor Emeriti:** Brazle, Kilgore, Lippert, Robbins, and Westmeyer; **Associate Professor Emeritus:** Appleby; **Instructor Emeriti:** George and Stephens.

Southwest Research-Extension Center

Mary Sullivan, Director
Professor: Sloderbeck; **Assistant Professors:** Martin and Waggoner; **Instructors:** Dumler and Sollock; **Professor Emeriti:** Mann, Hartman, and Young; **Instructor Emeriti:** Frisbie.

Local Extension Offices

There are extension offices in each of the 105 counties.

Academic Advising

Undergraduate Academic Advising Responsibilities

Kansas State University is committed to providing effective academic advising to students as an essential component of their educational experience.

Students are assigned to an academic advisor in their academic college or department and required to meet with their advisor each term prior to enrollment. Academic advising is a collaborative process where both the student and advisor share responsibility for the student's academic planning and progress towards achieving their academic goals. Academic advisors adhere to FERPA in protecting the student's academic information, confidentiality, and privacy.

In accordance with the Kansas Board of Regents academic advising policy, effective advising is central to the mission of the Board of Regents. To ensure that all students have access to high quality advising, each state university shall establish an Academic Advising System which shall provide the following:

Goal setting. Academic advisors will assist students in setting both short-term and long-term educational goals.

Information. Inform students of the graduation requirements of their department, help with strategic course selections so as to minimize the number of semesters required for graduation, and inform students of career opportunities in their field of study.

Transitions. Inform students how to change colleges and/or departments and provide information to explain the process students follow to enroll in their curriculum and to drop or add courses during the semester.

Accessibility. Have reasonable hours and methods of availability for students. Students should be able to set up appointments for an adequate amount of time to make curricular selections and career choices.

Referral to campus resources. Be able to refer students to various campus resources, including but not limited to: Academic Achievement Center, Counseling & Psychological Services, Career Services, and Student Access Center.

Provide information to students to inform them of their responsibilities in the Academic Advising process.

The university will train academic advisors to assist them in meeting the responsibilities of the policy.

Students are ultimately responsible for fulfilling all the requirements of the curriculum in which they are enrolled. Students share responsibility for a successful university experience and are expected to contribute to effective advising sessions by:

Participating in orientation programs, providing standardized test scores, as required by Kansas Board of Regents policy, and providing an accurate academic history that aids in course selection decisions.

Working with an advisor to develop and implement both short- and long-term educational and career goals.

Knowing academic policies and procedures, academic calendar deadlines, and degree or program requirements.

Consulting with an advisor when necessary and following through on recommendations.

Scheduling and keeping appointments with an advisor. Coming prepared for appointments by bringing appropriate materials, identifying course choices from requirements of the preferred program or major, and identifying questions to address.

Informing an academic advisor of any special needs, deficiencies, or barriers that might affect academic success.

Remaining informed of progress in meeting academic requirements, carefully maintaining academic records, and seeking assistance to resolve any errors or questions.

Exploratory Advising

Exploratory Advising is chosen by students who are in the process of deciding on a major or transitioning between majors.. With over 200 programs and majors at K-State, many students initially declare Exploratory Advising while deciding which program best fits their talents and interests. Students work closely with exploratory advisors to explore academic interests, majors and careers to develop a sound program of study. Exploratory advisors help students with the active decision-making process required to choose a major. These advisors are housed in the Pre-Professional and Exploratory Advising Center within the Division of Academic Success and Student Affairs.

Exploratory Advisors are available to assist students with more than 60 hours who are in transition and need assistance exploring alternative major and career pathways.

See the College of Arts and Sciences Open Option section for details.

Pre-Law Advising

K-State Pre-Law is a **non-degree designation** that supplements any field of study. This designation is added to a student's academic plan and will be reflected on their transcript. Pre-Law has **no required coursework**.

After adding Pre-Law to their plan, students are assigned a Pre-Law advisor in addition to their major advisor. The Pre-Law advisor provides assistance and support to help create a competitive application for admission into law school. This includes providing a **robust program of experiences** to expose students to a wide variety of legal career options and help students start building their legal network.

Additional information about Pre-Law Advising can be found on the Pre-Professional and Exploratory Advising Center website.

Pre-Health Advising

Whether students are interested in a career in human or animal health, K-State is a great place to start the journey toward becoming a healthcare professional. Pre-Health Advisors help students become competitive applicants to professional schools that will prepare them for the following health careers:

- Pre-chiropractic medicine
- Pre-dentistry
- Pre-medicine
- Pre-nursing
- Pre-occupational therapy
- Pre-optometry
- Pre-pharmacy
- Pre-physical therapy
- Pre-physician associate (formerly physician assistant)
- Pre-veterinary medicine

Some professional schools require a bachelor's degree before matriculation. Even if a degree is not required, some students may wish to earn a bachelor's degree from K-State before going on to professional school.

Students who require or wish to complete a bachelor's degree before going on to professional school must declare a major. No specific major is preferred over another by professional schools, so students should choose a major based on their academic interests. A major may be chosen from any undergraduate college at Kansas State University. *Pre-health students who declare a major will have a pre-health advisor and an advisor for their undergraduate major.*

International Programs

304 Fairchild Hall
785-532-5498
E-mail: oip@k-state.edu
www.k-state.edu/oip

The mission of the Office of International Programs is to lead the internationalization of Kansas State University by supporting and collaborating with faculty, students, and scholars in international education and research worldwide.

Building upon several decades of international involvement, K-State provides a range of programs that link the campus with other parts of the world. Many of these are coordinated through individual departments or colleges; others serve the whole university.

The Office of International Programs supervises the Education Abroad Program, the English Language Program, the International and Scholars Services unit, and provides a range of services and support to faculty and students.

Education Abroad Program

Katelin Christianer-Donkers, Director
Brent Holliday, Assistant Director
304 Fairchild Hall
785-532-5990
www.k-state.edu/studyabroad

Education Abroad is the first stop for students planning to study, volunteer, intern, or research abroad. We offer a variety of academic programs that prepare students for success in an increasing global society. Programs range from short term faculty-led and group programs to individual summer, semester, and academic year opportunities. Programs are available in Africa, Asia, Australia, Europe, North America, and South America. With over one hundred programs worldwide, students are able to find a program that matches their needs and interests. Exchange programs involve reciprocal partnerships with universities abroad that allow students to attend partner universities while paying K-State, in-state tuition and education abroad fees to K-State. Additional program options are available through direct enrollment and affiliated program providers. Faculty-led programs are education abroad courses taught internationally by K-State faculty and are coordinated by Education Abroad in cooperation with the academic departments.

Federal Financial Aid and most scholarships can be used towards education abroad. Education Abroad encourages students to apply for local and national education abroad scholarships in addition to the scholarships available through the Education Abroad. Select scholarships for education abroad are listed below:

Education Abroad Scholarships

Scholarships available through the *Office of International Programs/Education Abroad* include:

Goss Discovery Scholarship
Megan E. Taylor Czech Republic Student Award
Duane and Shirley Acker International Scholar Award
The Catherine Joyce Memorial Scholarship

Doris Hays Fenton Memorial Scholarship
The Heather Stewart Memorial Scholarship
Mary Lynn Manning Study Abroad Scholarship
Rodolfo J. Montes de Oca/Costa Rica Small Town International Scholarship
The Vernon Larson Study Scholarship
Veronica Bonebrake International Scholarship

Scholarships available through *other offices* include:

College of Agriculture International Study Scholarship
117 Waters Hall

College of Business Administration - Larry and Patricia Kendall Study Abroad Scholarship
107 Calvin Hall

College of Health and Human Sciences International Study/Service Scholarships
119 Justin Hall

Blue Key
103 Leadership Studies

Department of Modern Languages Scholarships (language majors only)
104 Eisenhower Hall

Gilman, Boren, Fulbright, and Critical Languages Scholarship
Beth Powers
215 Fairchild Hall

Office of International Programs (OIP)

Grant Chapman, Associate Provost
304 Fairchild Hall
785-532-5498
E-mail: oip@k-state.edu
www.k-state.edu/oip

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Building upon several decades of international involvement, K-State provides a range of programs that link the campus with other parts of the world. Many of these are coordinated through individual departments or colleges; others serve the whole university.

The Office of International Programs supervises the Education Abroad Program, the English Language Program, and the International Student and Scholar Services unit, and provides a range of services and support to faculty and students.

International Student and Scholar Services (ISSS)

Stacey Bailey, PhD, Director
Bogi Daviews, Associate Director

2012 Tunstall Cir., Building 7, Manhattan, KS 66502
785-532-6448
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E-mail: isss@k-state.edu
www.k-state.edu/isss

The staff at International Student and Scholar Services (ISSS) provide vital services for K-State's around 2,500 international students, scholars, and their families. This includes advice on U.S. immigration regulations, support during their stay in the U.S., third-party sponsored student support, and cultural programs. The staff assists them with visa and passport issues, work authorization, entry and exit documentation, certification of status forms, housing, programming and personal concerns. ISSS also offers assistance to faculty and departments wanting to bring international scholars to the United States. Additionally, the staff serves the entire campus as a resource on international student and scholar issues. The office operates under the Office of International Programs and works with all facets of the University to implement and support both the goals of each student and scholar and the goals of the University in international education. Staff members provide leadership and support for a variety of programs that promote global awareness and understanding.

Admission Information for Undergraduate International Students

Admission Information for Graduate International Students

International Student and Scholar Services

English Language Program

Ketty Reppert, Director
Leena Chakrabarti, Associate Director of Student Services

205 Fairchild
1601 Vattier Street
Manhattan, KS 66506
785-532-7324
E-mail: elp@k-state.edu
www.k-state.edu/elp

The English Language Program (ELP) assesses English language proficiency and offers intensive English courses primarily for international students who plan to enter degree programs at K-State. However, it also accepts students who wish to come for English instruction only.

The program offers five levels of full-time intensive English along with advanced part-time courses specifically for students who need support in English while taking classes in their degree field.

International undergraduate applicants: For other information, write or e-mail the English Language Program at the addresses above.

International Curricula

Students seeking to enrich their college experience and enhance their personal and professional development may take advantage of several interdisciplinary international education opportunities. International travel scholarships are offered by the college and departments.

College of Agriculture

Don Boggs
117 Waters Hall
785-532-6151
Fax: 785-532-6897
E-mail: dboggs@k-state.edu
www.ag.k-state.edu

The College of Agriculture offers opportunities for international travel through faculty-led study tours, summer exchange programs, semester abroad program, and summer internships in other countries. Scholarship or grant support is provided for all College of Agriculture students who travel internationally to study topics related to their major. A minor in international agriculture is available to students with agricultural majors. The minor requires a combination of language, international course work, and experience abroad.

College of Agriculture International Scholarships

Contact: Don Boggs 785-532-6151

- Boggs International Agriculture Scholarship
- Brown International Travel Award
- Galle International Agricultural Scholarship
- Lewis International Study Scholarship
- Morgan Family International Study Scholarship
- Stunkel International Travel Award Honoring Fred Cholick
- Wolfe International Scholarship

College of Arts and Sciences

Robert Clark, Director International and Area Studies
014A Eisenhower Hall
785-532-1988
Fax: 785-532-7004
E-mail: ias@k-state.edu
www.k-state.edu/ias

The College of Arts and Sciences offers two international, interdisciplinary secondary majors and two minors to undergraduates in any college: International Studies secondary major and Latin American Studies secondary major, East Asian Studies minor and African Studies minor. For more information, reference to these programs select either or find them listed in Colleges and Departments.

College of Business Administration

Student Services
107 Calvin Hall
785-532-6180
Fax: 785-532-7809
E-mail: cbastusv@k-state.edu
www.cba.k-state.edu

The College of Business Administration offers several opportunities to its students to learn about global business issues and practices as they prepare to meet the future challenges in the global marketplace. In addition to study abroad programs and faculty-led trips abroad, business students can earn a Certificate in International Business offered by the College of Business Administration or earn a secondary major in International Studies offered by the College of Arts and Sciences. Scholarships are often available for business students who travel internationally to study topics related to their major.

International Service Teams

Kaitlin Long, Program Coordinator and Instructor
1300 Mid-Campus Drive N
Manhattan, KS 66502
785-532-6085
Fax: 785-532-6896
E-mail: KaitlinL@k-state.edu
http://www.k-state.edu/leadership/programs/serviceteams/internationalteams/

Since 1989, K-State has supported interdisciplinary teams of undergraduate students in service-learning experiences abroad. These teams work alongside community partners on locally organized and run community initiatives. The International Service Teams, a program of the Staley School of Leadership Studies, currently partners with community organizations in South Africa, the Dominican Republic, Kenya, Paraguay, and The Gambia. Participants apply and are selected in the fall semester prior to the summer experience; they enroll in a spring semester preparatory course before departing for an eight to ten week engaged service-learning experience during the summer. Students work with local community partners and are involved with ongoing reflection during their time abroad. Upon return to Kansas State, they participate in a reflection course to process their learning experience and plan for future action.

Services for Students

Academic Achievement Center

101 Holton Hall
785-532-6492
www.k-state.edu/aac

The Academic Achievement Center serves as the free academic support package for all K-State learners. We ensure that all learners have the opportunity for academic success by providing guidance through the learning process. Academic Coaching, Tutoring, and Success Tools are available both in-person and virtually.

Academic Coaching

Academic coaching is designed to support students in developing the skills and strategies necessary to achieve their academic and personal goals. Our Academic Coaches guide students to create and achieve an academic success plan that focuses on what they want to achieve. Any student can schedule an appointment or drop-in to meet with an Academic Coach.

Tutoring Services

Peer tutors facilitate the learning process through the development of a student's ability to learn by asking engaging questions, providing challenge alongside support, and teaching students the skills they need to succeed.We focus on the success of the learning process as a whole not just the end result. Tutoring Services offers two types of support. **Content Tutoring** is peer assistance in a specific course you're enrolled in while **Study Skills Tutoring** develops key skills and strategies to be successful in college. Both **Content** and **Study Skills** are available via drop-in and appointment.

Success Tools

Success Tools are available for students to independently explore different strategies to improve time management, study skills, note-taking, and more. Success tools are available in-person and downloadable on the AAC website.

Career Center

Kerri Day Keller, Executive Director
148 Berney Family Welcome Center
705 N. Martin Luther King Jr Drive
785-532-6506
E-mail: careercenter@k-state.edu
www.k-state.edu/careercenter/

The Career Center facilitates the career readiness of students throughout the K-State community. The Career Center offers job search training, career advising, employer connections, and a staff dedicated to assisting students in the career development process. Gain an advantage by attending K-State career fairs, interviewing on-campus with employers or enrolling in credit-based courses for internship experiences.

Stop by the Career Center to:

- Schedule an appointment for personalized job search assistance.
- Shop our Career Closet and prepare for interviews.
- Drop in to get a resume critique or ask a quick question.
- Find job listings online (part-time, internship/co-op, and full-time).

See additional in person and online materials such as salary information, graduate school information, and other career advisor recommended resources.

Handshake is a free service for students to search for jobs and internships, make their resume visible to employers, learn about interview opportunities and find employer contact information to enhance their professional network.

Alcohol and Other Drug Education Service

Lafene Counseling and Psychological Services
785-532-6927
Fax: 785-532-3932
E-mail: counsel@k-state.edu
Web page: https://www.k-state.edu/lafene/services/alcohol-education/

The Alcohol and Other Drug Education (AODE) Service offers timely and accurate information on the physical effects and social issues related to alcohol and other drug use and abuse. Campus services provided include alcohol/drug information; basic assessment and intervention assistance; individual counseling for alcohol and other drug issues; professional referral resources, and educational presentations.

Cats' Cupboard

Shelly Williams, Morrison Family Director

1021 Denison
785-532-0367
www.k-state.edu/cats-cupboard

Cats' Cupboard – The Kansas State Food Pantry provides direct access to a variety of perishable and non-perishable foods, hygiene products, and gently used kitchen supplies. Located at 1021 Denison in a newly renovated facility that opened in Fall 2023. Open Monday through Thursday 10am-6pm and Friday 10am-2pm. Active K-Staters (full/part-time students, staff/faculty, and visiting scholars) are welcome to shop. Take what you need, give what you are able, and be mindful of your fellow Wildcat!

Center for Advocacy, Response, and Education (CARE)

206 Holton Hall
785-532-6444
Fax: 785-532-6457
E-mail: ksucare@k-state.edu
www.k-state.edu/care

The Center for Advocacy, Response and Education (CARE) is a safe space for any member of the K-State community who has been affected by dating, domestic, and sexual violence, stalking or harassment to receive confidential services. CARE collaborates across identities and sheds light on the realities of psychological emotional, financial, physical and sexual forms of violence. CARE challenges the campus community to join us in advocating for positive social change while addressing the influences and social patterns that lead to interpersonal violence and other forms of oppression.

Cooperative Houses

Smurthwaite Leadership/Scholarship House

1500 North Manhattan Avenue
Manhattan, KS 66502-4695
785-532-6453
E-mail: housing@k-state.edu
www.housing.k-state.edu

The Smurthwaite Leadership/Scholarship House is a unique cooperative living option for women interested in a focused leadership experience. Smurthwaite is located on the east side of campus and houses approximately 46 women. This vibrant community emphasizes academics, leadership, campus involvement and community service – the four pillars of Smurthwaite.

Smurthwaite residents pay a lower rate for room and board while assisting with the day-to-day operation of the house, such as front desk duty. Residents are required to maintain a 3.0 cumulative GPA, be involved in on-campus clubs, participate in philanthropy and volunteer activities, and attend Smurthwaite-sponsored programs and house meetings.

Those who wish to live in Smurthwaite complete the Residence Hall Contract. On the contract the student can indicate their interest in living in Smurthwaite and also complete the Smurthwaite Interest form available in the contract confirmation email. Students invited to live in Smurthwaite will complete a contract addendum prior to move in.

Lafene Counseling and Psychological Services (CAPS)

1105 Sunset, Rm. 101
Phone: 785-532-6927
Fax: 785-532-3932
E-mail: counsel@k-state.edu
www.k-state.edu/counseling

OFFICE HOURS: Throughout the academic year, CAPS is open Monday through Friday from 8:00 am to 5:00 pm. During all academic breaks, including summer, CAPS is open Monday through Friday from 8:00 am to 12:00 pm and 1:00 pm to 5:00 pm.

WHAT WE DO:

Kansas State University Counseling and Psychological Services (CAPS), in support of the overall mission of the University, provides high-quality professional services to help all students meet their full potential – personally, academically, and socially. Within an accepting, sustaining, and compassionate setting, CAPS provides professional resources to attend to our students' psychological needs by promoting wellbeing, alleviating concerns, facilitating problem resolution, and enhancing their success. We see students with a wide range of concerns from difficulty adjusting to college to more serious mental health issues. When students' needs are beyond the scope of our services, we offer options in the community.

As professional staff, we value our campus community and empower students to improve their mental health. We are committed to ethical and competent treatment consistent with our training, experience, and K-State's mission as a land-grant university. Our services are available to all enrolled students who have paid the student services fee included in their tuition bill.

While appropriately protecting confidentiality, we work collaboratively with other entities, both on and off campus, to foster a safe and healthy environment. During critical events, we are ready to offer timely response to campus through consultation, outreach, and follow-up to reduce trauma and promote resolution.

Confidentiality means that your contact with this office is not part of your academic records, and clinical information will not be disclosed to any other office or individual unless you have given us written permission, or there is a legal mandate, to do so. CAPS staff is exempt from Title IX and therefore, they do not report crimes that include sexual violence (including rape, sexual assault, and sexual harassment) to university officials.

OUR STANDARDS: CAPS staff, including those in the APA-accredited Internship in Health Service Psychology, adhere to the appropriate ethical code for our respective professions, such as the American Psychological Association, American Associate for Marriage and Family Therapy, American Counseling Association, and licensing/legal standards for our professions.

FEES: CAPS is funded in part by the student service fees. Students receive free services for therapy, while a nominal fee is charged for additional services such as ADHD assessments. Contact our office by phone for more details.

Student Belonging

Mirta Chavez, Assistant Vice President
785-532-6276
E-mail: mirta@ksu.edu
https://www.k-state.edu/academic-success-student-affairs/about/belonging/

Fostering mutual understanding among all students, faculty, and staff helps create a campus atmosphere where every student feels they belong. Meet new people and celebrate your unique identity. Attend events and gain access to resources designed to help you thrive.

As part of the Division of Academic Success and Student Affairs (DASSA), we work to provide an impactful and holistic K-State experience by closely aligning student life resources with academic support programs and services. Student Belonging partners across all sectors of the university to foster an atmosphere in which all students are supported, celebrated, and included.

Student Engagement & Belonging

Morris Family Multicultural Student Center

785-532-6284
Morris Family Multicultural Student Center (k-state.edu)

The Morris Family Multicultural Student Center is your hub for intercultural learning and collaborative initiatives. The Center is open to all. Located immediately east of the K-State Student Union, the Center offers an opportunity for people of all cultures, backgrounds, and identities to explore their cultural origins, engage in meaningful cross-cultural interactions and broaden perspectives. The Center enriches our learning environment and fosters a supportive, welcoming atmosphere that promotes student academic success and personal empowerment, and contributes to the overall culture of K-State and Manhattan communities.

Spectrum Center

Mariya Vaughan, Interim Coordinator
207 Holton Hall
785-532-5352
E-mail: spectrum@k-state.edu

K-State's Spectrum Center

The Center provides support, workshops, scholarships, events, and representation of the LGBTQ campus community to engage in multiple platforms to advance learning around intersectional identities through educational presentations, student supports, and committee representation. The Center provides support to students and their organizations, such as the Sexuality and Gender Alliance (SAGA), Gender Collective, and STEM at K-State.

Educational Supportive Services Manhattan and Student Support Services Salina

Eric Thompson, Director
103 Holton Hall
785-532-5642
Fax: 785-532-6457
E-mail: ess@k-state.edu
www.k-state.edu/ess

Income limited students and first-generation college students are assisted in setting and attaining realistic educational goals and are provided information about graduate-level educational opportunities. Students admitted and enrolled at K-State are offered

educational supportive services including study skills and academic enrichment program courses, academic pre-advising, individualized tutorial assistance, and a variety of referral services. Both programs are funded through a federal TRIO grant.

Graduate Student Council

Graduate Student Council (GSC) is the student organization representing graduate students from all academic disciplines at Kansas State University. Any organization with graduate student membership is invited to participate in the council and council activities are open to all graduate students.

GSC is a highly active student governing board for graduate students. GSC provides students with professional development, networking and leadership opportunities. GSC awards students travel grants to present their research and scholarly work at professional meetings and to attend conferences. Students participate in a variety of networking events sponsored by GSC and other graduate student organizations.

- The council meets on the first Monday of every month.
- The Graduate Student Council is funded mainly the Student Governing Association from the Graduate Student Activity Fee.
  - Access the GSC constitution (PDF).
- You must register your organization each year to remain active with the Graduate Student Council.

Leadership Opportunities

There are various ways to get involved with Graduate Student Council. Every council member is encouraged to serve on a committee, including the Allocations Committee, GRA/GTA/GA Affairs Committee, International Affairs Committee, Research Forum Planning Committee, and Ice Cream Social Planning Committee. Members also publicize GSC events and help maintain the website. Council officers are elected during the spring semester. Officers include the president, president-elect, secretary, and treasurer. All graduate students are encouraged to participate in the council activities. Membership in the standing committees are open to all graduate students.

Professional Development

GSC strives to provide informational meetings, workshops and forums that enhance the professional development of graduate students. The council promotes interdisciplinary activities to enrich graduate students' education beyond their own disciplines. The council also sends out information on various seminars held across campus every week to the Council members, to be shared with their graduate student groups.

If you have any questions, contact the GSC officers: egsc@k-state.edu.

Housing and Dining Services

Derek Jackson, Associate Vice President for Community, Dir. of Housing and Dining Services
104 Pittman Building
1531 Mid Campus Dr. North
1-888-568-5027 (toll free)
785-532-6453
Fax: 785-532-6855
E-mail: housing@k-state.edu
www.housing.k-state.edu

The university requires all incoming Manhattan campus first-year K-State students to live on campus during their first two semesters. As part of a residential community, students have a sense of belonging and an avenue for involvement, as well as many opportunities for interaction with other students and university staff. Furthermore, the opportunity to participate in organized social, athletic, and educational events contributes to overall academic success.

More than 5,000 students call our campus home. With ten residence halls, one leadership/scholarship house for women, a house for honors students and a large apartment community to choose from, Housing and Dining Services has something for everyone.

Residence Halls

K-State residence halls have a long-standing tradition of providing a living and learning environment that encourages personal growth and academic success. It is for this reason that residence hall living is required for a student's first year and recommended for a student's second year at K-State, and that many upper-division students decide to remain in the halls.

In this ideal transition from home to school, students benefit from direct access to helpful staff, dining service, tutoring programs, technical support, on-site laundry facilities, leadership opportunities and more. They're close to classes, and living among fellow students provides many opportunities to develop lifelong friendships.

A student can submit a Housing Information Request form in mid-September. This form notifies Housing and Dining Services that this student would like to receive more information about the upcoming contract process. In early December the student will be able to complete the Residence Hall Contract and submit a contract payment which includes a $30 non-refundable processing fee and a $200 initial contract payment. The cost of the contract is determined annually, and following an initial payment, the remaining balance due will be billed to the student's KSIS account.

Jardine Apartments

Jardine apartments provides on-campus apartment living for students who are upper division, graduate, nontraditional, married (with or without children) or single parents.

This unique apartment community offers a wide variety of floor plans to choose from. Different price points include options in modern, highly renovated, renovated and traditional apartments. Also in Jardine is the Hybrid Option, which allows students to rent space at Jardine by the bedroom. Activities help residents get involved and stay connected, and a trained professional staff, including a 24-hour maintenance crew, is available to assist residents. Residents have the benefit of an on-site sports grill, coffee shop, and laundry facilities.

Housing and Dining Services begins accepting applications for Jardine apartments in mid-September. The student will indicate on the application the preferred apartment types and whether roommate(s) or family members will also reside in the apartment and submit the $30 non-refundable processing fee.

Apartment selections for the fall semester typically begin the first week of March. Applicants will be notified by email prior to March when their specific apartment selection time will begin. Applicants can log in to the Resident Portal and view all of the currently available apartments and select the apartment of their choice.

To secure the apartment, the student must complete the Jardine Agreement and submit a $400 deposit payment.

Smurthwaite Leadership/Scholarship House

The Smurthwaite Leadership/Scholarship House is a unique cooperative living option for women interested in a focused leadership experience. Smurthwaite is located on the east side of campus and houses 46 women. This vibrant community emphasizes academics, leadership, service, friendship and equity — the five pillars of Smurthwaite.

Smurthwaite residents pay a lower rate for room and board while assisting with the day-to-day operation of the house, such as front desk phone duty. Residents are required to maintain a 3.0 cumulative GPA, be involved in on-campus clubs, participate in philanthropy and volunteer activities, and attend Smurthwaite-sponsored programs and house meetings.

Those who wish to live in Smurthwaite complete the Residence Hall Contract. On the contract the student can indicate their interest in living in Smurthwaite and complete the Smurthwaite Interest form available in the contract confirmation email. Students invited to live in Smurthwaite will complete a contract addendum prior to move in.

Academic Initiatives

On-campus living environments offer individualized academic support to residents through trained staff, programming and faculty involvement. Computer stations, study spaces, workshops and more help improve academic skills and make the residence halls a great environment for learning and academic success.

Residential CAT Communities

Residential Connecting Across-Topics (CAT) Communities are a set of learning communities specifically created for first-year students. A group of 22 students with similar interests take classes, live, eat and study together in the residence halls. The communities offer mentoring from a professor and an advanced undergraduate Residential Learning Assistant who also lives with the students. This is a great way for students to make connections and quickly become an active part of life on campus.

Leadership and Involvement Opportunities

Hall Governing Boards, the Jardine Residents' Council, and floor governments plan and implement intramural events; community service projects; educational, cultural and social programs and more. Judicial boards provide an opportunity for students to address one another regarding policy violations that impact the community. The Kansas State University Association of Residence Halls plans hall-related events and works closely with hall representatives to develop and implement policies that promote respect and acceptance among all residence hall students. The Little Apple Chapter of the National Residence Hall Honorary recognizes the top 1 percent of residents who have contributed outstanding service and leadership in the residence halls while demonstrating academic excellence.

International Student and Scholar Services (ISSS)

Dr. Sara Thurston, Director
104 International Student Center
785-532-6448
Fax: 785-532-6607
E-mail: isss@k-state.edu
www.k-state.edu/isss

The staff at International Student and Scholar Services (ISSS) provide vital services for K-State's around 2,500 international students, scholars, and their families. This includes advice on U.S. immigration regulations, support during their stay in the U.S., and cultural programs. The staff assists them with visa and passport issues, work authorization, entry and exit documentation, certification of status forms, housing, programming and personal concerns. ISSS also offers assistance to faculty and departments wanting to bring international scholars to the United States. Additionally, the staff serves the entire campus as a resource on international student and scholar issues. The office operates under the Office of International Programs and works with all facets of the University to implement and support both the goals of each student and scholar and the goals of the University in international education. Staff members provide leadership and support for a variety of programs that promote global awareness and understanding.

ISSS is housed in the International Student Center which is composed of three building that have been completely funded by private gifts to K-State. The Taiwan Wing houses most of the staff. The Korean Room houses the director's office and office meeting space. The Center provides a comfortable relaxed atmosphere where people can meet or attend various programs. It includes a multipurpose meeting room, kitchen, reading lounge, and small classroom. Rental of the facilities is available.

Kirmser Language Center (KLC)

01 Eisenhower Hall
785-532-6760

Making learning enjoyable...if you are a faculty, or a student enrolled in a language course, come on in! You are invited to the Kirmser Language Center. We will provide you audio, video, and computer multimedia services for both undergraduate and graduate level courses within the Department of Modern Languages. The KLC currently serves about 1,250 students each semester, and offers a variety of resources. The Kirmser Language Center is the location for students to have their language skills tested prior to enrolling in most language courses.

K-State Student Union

Erik Kahl, Executive Director
K-State Student Union
Director's Office, Union 214, Second Floor
785-532-6591
Fax: 785-532-6565
E-mail: union@k-state.edu
union.k-state.edu

Union Mission Statement: **The K-State Student Union**

To serve all, especially students, with facilities that provide services, programs, leadership experiences and educational opportunities which foster a sense of well-being, belonging and community.

Since opening its doors in 1956, the Union has been the host to the campus and the community. The Union plays an integral role in the educational mission of the university and its diverse programs and services are supported by student fees and generated revenue. The Union is the exciting hub of campus life and provides a gathering place and a common ground for students, faculty, staff, alumni, university departments and the greater Manhattan area. All revenues generated at the Union assist in funding programs, opportunities and services for the campus community.

BOOK A SPACE

No matter what type of event you are planning – from a small executive retreat to a large annual convention to a storybook wedding reception – the Union has a perfect space for you With approved caterers, cutting-edge technology and a variety of event spaces, we can accommodate any and all types of professional and personal events. Rooms are offered at a discount to students, faculty, staff and registered student organizations.

FOOD AND FUN

Foodies and students alike will be able to enjoy a diverse mix of delicious cuisines ranging from burgers and barbecue to salads and wraps. With national chains like Subway, Chick-fil-A and Panda Express as well as local favorites such as Radina's Coffeehouse, you'll find what you crave at the Union's many restaurants and cafes. The Wildcat Value Meal program highlights a $7 specialty meal at a variety of Union restaurants.

The Union proudly participates in the Dining Dollars program, a flexible dining option for students, faculty and staff. Dining Dollars can be purchased as a standalone plan or as an optional add-on to a meal plan, adding additional options to the on-campus dining experience.

Chick-fil-A

Known for its original chicken sandwich and waffle fries, Chick-fil-A's menu of fresh, handcrafted food includes breakfast and lunch/dinner options.

Fast Track

Fast Track is the quick and flavorful option for campus patrons. Offering a variety of classic American foods, including K-State's own Weber Hall beef burgers, brick oven fired pizza along with BBQ smoked in-house daily and freshly made salads.

Hunt Brothers Pizza

Located on the lower level of the Union, Hunt Brothers® Pizza brings America's #1 made-to-order and by-the-slice **pizza** to campus and offers 10 toppings to choose from for no extra charge. That's 1,024 topping combinations at one price!

Panda Express

Panda Express is best-known for its wide variety of original recipes including its Original Orange Chicken™, SweetFire Chicken Breast®, award-winning Honey Walnut Shrimp and Shanghai Angus Steak

Qdoba Mexican Eats

Satisfy your cravings with tasty Mexican food like our burritos, 3-cheese nachos, and more! At QDOBA, our food philosophy lies in crafting thoughtful flavor combinations that will satisfy your biggest cravings and leave you counting down the days until you're back for more.

Radina's Coffeehouse and Roastery

Radina's Coffeehouse & Roastery is dedicated to providing fresh, handcrafted coffee roasted to its peak flavor. With four locations on the K-State campus, Radina's serves high-quality and individually unique coffees from around the world. Known for its in-house, specialty roasted drinks, Radina's has many options to satisfy the choosiest coffee connosisseur.

Subway

Subway is your go-to spot for a menu of fresh, nutritious sandwiches in a casual atmosphere. Subway also offers a variety of options for all of your group gatherings, including party platters, party subs and bag lunches.

Union Station by JP's

Through a partnership with K-State Housing and Dining Services, Union Station by JPs brings the campus and the Manhattan community together around a table filled with excellent food. A K-State original modeled after JP's in the Jardine Complex, Union Station menu items are locally sourced when possible, including Weber Hall meats .

The Cats' Den Convenience Store is the best place to pick up a drink or a tasty snack between classes. ReFresh-ReThink-ReFuel at the Cats' Den alternative snack area featuring gluten-free, vegan, organic, natural and energy/power options. We stock a variety of soft drinks, juices, energy drinks, snacks and sandwiches, as well as our freshly popped popcorn.

Not in the building? The Union provides options around campus with additional Radina's Coffeehouse and Roastery locations in the Engineering Complex and the College of Business Administration building. Whatever your palette craves, the Union has the fix.

Wabash Cannon Bowl, the Union Bowling Center, located on the Union's lower level, is the best place for relaxing on campus. Whether it's something fun to do between classes or an evening with friends, the Wabash Cannon Bowl is the place to be. The center is equipped with 16 bowling lanes, billiard tables, two air hockey tables, a video arcade, and a reservable party room. Student bowling leagues are always very popular, and billiard leagues are also available. The recreation center is also available for group gatherings.

Esports has found a home in the Union. Located in the Union Bowling Center, the arena is outfitted with state of the art equipment including two Nintendo Switches. Esports is open seven days per week. The K-State Esports Club is a student organization dedicated to fostering a community of individuals passionate about playing video games at all levels. The club welcomes those who play competitive game as well as students interested in other events and activities.

SHOPPING AND SERVICES

The official K-State Campus Store is located on the Union's ground floor, is not only the most convenient place to get your textbooks but also has a great selection of K-State merchandise and apparel. Textbook options ranging from new to used, rental to digital are designed for student savings. The official K-State booklist is available online at kstatecampusstore.com. Textbook information (including ISBN, author, title, publisher and copyright data) is available at courses.k-state.edu. When viewing a course, click on the textbook icon for textbook details. For more information, contact 785-532-6583.

Cat Tech, the Union computer store, is a full-line computer store and an Apple authorized educational reseller. Students can receive discounts on Apple computers, Microsoft and Adobe products, as well as other academic software. Cat Tech carries an extensive inventory and variety of computer supplies, including MacBooks, the complete line of Apple iPads, and a large selection of Apple accessories. Online shopping is offered 24/7 at kstatecampusstore.com. Stop by the location on the Union's ground floor or give us a call at 785-532-7319.

All students, faculty and staff can get their official university ID card, the Wildcat Card, at the ID Center, located on the ground floor of the Union. Wildcat Cards can be used as a photo ID, access/entry card, library card, and Cat Cash on-campus debit account. Cat Cash is ideal for anyone who carries a Wildcat ID and spends time on campus. The ID Center can assist with card replacements, Cat Cash deposits and Union gift card purchases. If you have any questions, contact 785-532-6399 or wildcatcard@k-state.edu.

GET INVOLVED

Student Programs and Involvement

Sara Heiman, Director
Student Programs and Involvement
K-State Student Union
785-532-6541
E-mail: studentinvolvement@k-state.edu
https://www.k-state.edu/student-involvement

Student Programs and Involvement provides opportunities for students to get connected, engaged, and involved at K-State. The office oversees student organization recognition for the University, and provides leadership development trainings and resources for group officers and advisors. SPI also manages K-State's student involvement platform, OrgCentral, as well as the co-curricular engagement program, Cat Trax. SPI coordinates Week of Welcome, an event series that takes place every fall and spring semester, and SafeRide operated by Lyft(R). SPI supports the voice of the student body, Student Governing Association, and campus activities through the sponsorship of Union Program Council.

Student Organizations

More than 400 organizations are available to students, faculty members, staff, and community members.

Any organization desiring to become a recognized organization must register with Student Programs and Involvement. Registered groups have the opportunity to request funds from SGA, hold fund-raising activities on campus, and schedule rooms and tables in the K-State Student Union as well as most campus facilities. Recognized student organizations may also post notices in university buildings and on campus bulletin boards.

OrgCentral

https://orgcentral.k-state.edu

OrgCentral is K-State's online student organization management and student engagement platform. Students can explore upcoming events, engage in student organizations, and connect with other students using the platform. All registered student

organizations have a group page in the system to manage their organizational operations. All currently enrolled students and university employees have an account created automatically and can use their eID and password by clicking the "school login" button on the site.

Cat Trax

orgcentral.k-state.edu/cattrax

Cat Trax serves as a guide to help students transition to campus, connect with resources, build social capital, and develop career readiness competencies and skills. Cat Trax identifies experiences every K-State student should have and organizes these experiences into a checklist. Students earn rewards for completing checklist items. Students can explore their Cat Trax checklist in OrgCentral.

SafeRide

Email: saferide@k-state.edu

SafeRide operated by Lyft provides all students on the Manhattan campus free or discounted rides within the city limits during the eligible time windows utilizing the Lyft app. SafeRide is a program funded by students for students through the Student Services Fee as a program that meets immediate student needs and safety concerns.

Week of Welcome

Email: wow@k-state.edu

Week of Welcome is an event series that takes place during the first week of class in the fall and spring semesters. Week of Welcome programs and activities ease the transition into the academic term by helping students establish connections with their peers, familiarize themselves with campus, and explore involvement opportunities and important resources for their success.

Lafene Health Center

Kara Fiske, Executive Director, Student Health and Counseling and Psychological Services
1105 Sunset Avenue
Manhattan, KS 66502-3761
785-532-6544
Fax: 855-673-4137
E-mail: lafene@k-state.edu
www.k-state.edu/lafene

Lafene Health Center is an outpatient health care facility designed to meet the healthcare needs of Kansas State University students and the campus community. The health center is fully accredited by the Accreditation Association for Ambulatory Health Care (AAAHC). Enrolled students who have paid their student services fee are eligible for care. Non-student spouses, university conference participants, and other campus visitors may receive care with prior approval of Lafene Health Center Administration. Non-student patients will be required to pay non-student rates for services received.

Lafene Health Center provides, through a full complement of medical and other professional personnel, a range of services that include special clinics for sports-related injuries, gender care, allergies and immunizations, dermatology, as well as a clinic for general care. Services in health and well-being education, massage therapy, nutrition, physical therapy, pharmacy, laboratory, and x-ray are also available at reduced rates for eligible students.

The Health Center is staffed by health care professionals and support personnel in various areas. When necessary, students may be referred to external specialists for care at their own expense.

Insurance

It is strongly recommended that all students at K-State carry health insurance, either through a parents' plan at home or an employer's health plan or through student health insurance plans available from the Kansas Board of Regents (KBOR). It is required for International Students to carry health insurance specifically designed for International Students. The KBOR student insurance plan covers most services provided at Lafene Health Center and covers a wide variety of healthcare services outside of Kansas State University. The KBOR webpage can provide up to date details about the insurance plans offered to Kansas State University students.

Lafene Health Center's MyLafene Patient Portal

All incoming K-State students must check out the MyLafene patient portal. Have health insurance information ready to upload along with your immunization records. The portal allows students to make appointments, upload information to meet State of Kansas and University requirements, and communicate with Lafene providers. Lafene's webpage contains a wealth of information that can assist students with their health and well-being needs during their time at K-State.

Tuberculosis Screening

International students from countries with a high incidence of tuberculosis and domestic students who have spent more than three months in a country are required by state law to be screened and potentially tested for tuberculosis prior to enrolling at K-State. Screening and testing can be completed through Lafene Health Center or another healthcare provider outside of Kansas State University. Proof of testing and the results are required if not completed at Lafene Health Center.

Incoming Students Residing in University-owned Housing

Kansas Statute and the State of Kansas Board of Regents policy requires all incoming students residing in university-owned housing to be vaccinated against meningitis or sign a document waiving the vaccination. The vaccine can be obtained by appointment at Lafene Health Center or the student's private physician. Meningococcal Vaccine Documentation Forms are available through the Lafene Health Center website and by using the MyLafene patient portal.

McNair Scholars Program

Vacant, Director
101 Holton Hall
785-532-6137
E-mail: mcnair@k-state.edu
www.k-state.edu/mcnair

The McNair Scholars Program, named for the African American astronaut who died in the 1986 space shuttle explosion, encourages and prepares academically promising students to pursue doctoral degrees. McNair Scholars are from income-limited and first-generation college educated backgrounds or are from minority groups who are underrepresented in graduate study.

Staff will assist McNair Scholars in selecting an appropriate graduate school for their career goals, in preparing for the Graduate Record Examination, and in applying for graduate admittance and financial assistance. Each year McNair Scholars will be matched with a faculty mentor and will work on research projects for which they will receive a stipend. The McNair Scholars Program is funded through a federal TRIO grant.

Morrison Family Center for Student Well-being

Chris Bowman, Director
K-State Student Union, Rm 217
918 N MLK Jr. Dr.
785-532-6595
E-mail: wildcatwellbeing@k-state.edu
https://www.k-state.edu/center-for-wellbeing/

The Morrison Family Center for Student Well-being is an office at K-State committed to fostering the physical, social, and emotional well-being of students through education, outreach, and support. The Morrison Family Center for Student Well-being uses evidence-based strategies and best practices to develop campus-wide programs that inspire our communities in health promotion, prevention, and well-being. The well-being center uses their expertise and knowledge to create relevant, holistic, and lasting well-being strategies to create **WellCATS for Life.** Visit our website for more information and a complete list of our well-being programs and offerings.

New Student Services

Executive Director
Berney Family Welcome Center
705 N. 17th Street
785-532-6318
Fax: 785-532-3696
E-mail: nss@k-state.edu
www.k-state.edu/nss

New Student Services works with prospective and new students and their families. Admissions representatives meet with high school students during school visits, college fairs, and special events. Transfer staff visit Kansas community colleges and help transfer students successfully make the transition to K-State.

New Student Services coordinates campus visits, orientation and enrollment, Wildcat Warm-up, StrengthsQuestTM Initiative, Blue Key Honor Society, Welcome Center Ambassadors and the Presidential Lecture Series. The department collaborates with many campus programs and departments to provide services to prospective, new and current undergraduate students.

Millitary-Affiliated Resource Center and Non-Traditional Student Services

Amanda Etter, Director
Military Affiliated Resource Center
2nd Floor Student Union
Room 217
785-395-8387

Non-Traditional Student Services
Student Support and Accountability
785-532-6432

E-Mail: kstatenontrad@k-state.edu
www.k-state.edu/nontrad/veteran/

Non-Traditional & Veteran Student Services assists undergraduate and graduate students who meet one or more of the following criteria:

- 25 years of age or older
- Married
- Parent
- Veteran
- Returning to school after an absence of 3 or more years

Non-Traditional & Veteran Student Services provides assistance and advocacy for students before, during, and after their admission to K-State. Staff members assist students in obtaining information and/or providing referrals in many areas, including: admission, scholarships, childcare, housing, tutoring, refresher and study skills courses, student health insurance, campus activities and community programs, non-traditional student networking opportunities, and many other student questions/concerns.

Off-Campus Housing Support

The Off-Campus Housing Support is located at Student Support and Accountability, 201 Holton Hall, 785-532-6432. The coordinator of off-campus housing support students resolve issues or answers questions regarding landlord problems or rental contracts. Students can also find information about rental units, with information on cost, size, restrictions, etc., and other housing options.

Fraternity and Sorority Life

Dee Hawks, Director, Fraternity & Sorority Life
004 K-State Student Union
785-532-5546
E-mail: greeklife@k-state.edu
https://www.k-state.edu/fraternity-sorority/

K-State is home to more than 3,500 fraternity and sorority members. The Fraternity and Sorority Life office supports the Interfraternity Council and the Panhellenic Council community. The communities consist of 35 chapters, 30 of whom own and control their own residential facility. The average Panhellenic sorority size is 125, and the average IFC fraternity size is 70.

Panhellenic sororities select a majority of their members during Fall Formal Recruitment which happens the week prior to the start of the fall semester. Women who wish to participate in the Formal Recruitment process must register on the Fraternity and Sorority Life website and pay a participation fee by no later than August 1. Throughout the year, individuals may have additional informal opportunities to join chapters through the continuous open bidding process. These opportunities can vary widely. You can learn more about informal joining opportunities on this website. For Panhellenic members, most new members live in a residence hall during their first year membership and may move into the sorority house their second year of membership. Live in requirements can vary by chapter and can be discussed during any recruitment conversation.

Interfraternity Council fraternities select new members through an informal, chapter-driven process. This process mainly occurs beginning in the late fall and continues throughout the spring and into the summer. Most new members live in their fraternity house during the first year of membership if the chapter owns a property. Men may fill out an interest form on the website and find contact information for chapter recruitment chairs.

Complete information regarding fraternities and sororities including costs, how to register, recruitment dates and methods, the recruitment week schedule for sororities, and a list of K-State fraternity and sorority chapters can also be found on the Fraternity and Sorority Life page.

Information about NPHC fraternities and sororities and other national organizations that select new members via the intake process can also be found on the Multicultural Greek Orgs page, housed within Student Belonging.

Office of Nationally Competitive Scholarships

Jim Hohenbary, Director
215 Fairchild Hall
785-532-3422
E-mail: jimlth@k-state.edu
https://www.k-state.edu/leadership/scholardevelopmentandundergraduateresearch/scholardevelopment/national-scholarships/

The Office of Nationally Competitive Scholarships assists K-State students as they compete for nationally competitive awards such as the Rhodes, Marshall, Truman, Goldwater, Udall, and Fulbright.

The office helps students identify awards that might suit their accomplishments and goals, advises students as they prepare their applications, and manages the campus selection process for scholarships and fellowships that require applicants to be nominated by their university.

A strong academic record and active résumé are essential for applications. Students interested in competing for major awards are encouraged to consult with the office as early as possible in their college career.

The office website provides a much larger listing of national and international scholarships and fellowships. Note that the office primarily advises students regarding major award competitions that are external to the university. Students seeking information about K-State scholarships should consult the Office of Student Financial Assistance and their academic departments.

Student Support & Accountability

Andy Thompson, Assistant Vice President and Senior Associate Dean
Allison Coleman, Assistant Dean and Director of Conduct
Laurel Moody, Senior Assistant Dean
Janelle Rieger, Assistant Dean

201 Holton Hall
785-532-6432
Fax: 785-532-5307
E-mail: stulife@k-state.edu
https://www.k-state.edu/student-support/

The mission of the Student Support & Accountability Office is to enhance the K-State student experience and promote student success in the classroom and in life. The Office of Student Support & Accountability helps when problems arise, working with students and with other campus services to find the most appropriate and effective solutions. The Office of Student Support & Accountability also serves as one of the approved offices for students to receive excused absences through the approve policy. The Office of Student Support & Accountability is also a resource for parents who may have concerns or questions. The Office of Student Support & Accountability administers the judicial programs for non-academic misconduct and works closely with the student judicial system.

Powercat Financial

Kate Mielitz, Executive Director
302 K-State Student Union, Third Floor
785-532-2889
E-mail: powercatfinancial@k-state.edu
www.k-state.edu/powercatfinancial

Powercat Financial assists students with financial decisions including budgeting, saving, student loan repayment, and understanding credit. The center is free to K-State students and uses a peer mentor program where students studying in a finance related curriculum provide one-on-one peer financial counseling and education to fellow students. In addition to individual confidential counseling, the center provides free workshops to campus groups and organizations about various financial topics. The goal of Powercat Financial is to improve the financial literacy and success of all K-State students. Visit the Powercat Financial website to schedule an appointment, to request a financial workshop presentation, or to learn more about financial issues.

Recreational Services

Clint Hafliger, Director
Chester E. Peters Recreation Complex
1831 Olympic Drive
785-532-6980
Fax: 785-532-4983
E-mail: recservices@k-state.edu
www.recservices.k-state.edu

Recreational Services oversees the programming and administration of intramurals, fitness/wellness programs, climbing wall, K-State challenge course, and free time use of the Peters Recreation Complex, outdoor recreation area and the K-State natatorium.

Chester E. Peters Recreation Complex

fully accessible and includes:

- 8 racquetball courts
- five performance zones
- two squash courts
- two wallyball courts
- three gyms that include:
    - 13 basketball courts
    - 15 volleyball courts
    - 5 badminton courts
    - 2 pickleball courts
- multi-activity court (MAC) gym provides for indoor soccer, in-line hockey, basketball, volleyball and tennis
- three weight rooms
- two cardio areas
- combatives room
- four group fitness and studios
- one multipurpose room
- private personal training studio
- 40-ft climbing wall and bouldering rock
- Quik Cats Cliffside snack/juice bar
- game lounge offering video game stations, pool tables, foosball and electronic darts
- two indoor tracks
- table tennis area
- locker rooms with saunas
- southside parking lot exclusively for students
- pickleball courts

Outdoor Recreation Area

lighted playfields for football, soccer, softball, ultimate
four sand volleyball courts
six tennis courts
three basketball courts
two 3-wall handball/racquetball courts
running/walking trails

Outdoor Rental Center

offers equipment rentals to the K-State community during spring, summer and fall seasons

camping equipment
canoes, kayaks, and stand-up paddle boards
tents and sleeping bags
hammocks

Intramural Sports

scheduled competitive activities offering

team, individual, and meet sports for students, faculty, and staff
over 50 different intramural activities for men, women, and co-rec competition

Fitness Services

programming designed to promote health and wellness

group fitness sessions offering a wide variety of formats such as cardio, yoga, and cycling
personal trainers providing fitness assessments, and exercise program planning
educational outreach presentations/workshops

Climbing/bouldering Area

providing a variety of ever changing climbing routes ranging from beginner to advanced

40-ft rock wall with 11 top ropes
12-ft freestanding boulder

K-State Challenge Course

team building, experiential activities available by reservation to K-State students and organizations, as well as the Manhattan community offering:

low elements consisting of ropes, wires, poles and other wooden objects
high elements using ropes and belay systems providing activities 30-40 feet in the air

Student Employment

Positions for sports officials, building supervisors, weight room supervisors, climbing wall instructors, group fitness leaders, personal trainers, facilitators, maintenance, and office assistants.

Additional information and a complete schedule of hours and events is available on the Recreational Services home page.

Student Access Center

Jason Maseberg Tomlinson, Director
202 Holton Hall
785-532-6441
Fax: 785-532-6457
VP: 785-370-0431
E-mail: accesscenter@k-state.edu
www.k-state.edu/accesscenter/

Student Access Center appreciates disability as an integral part of the K-State experience. We are dedicated to providing equal educational opportunity and access to students by providing a broad range of services to meet the needs of students with disabilities.

Students may require accommodations in areas such as attention, autism, learning, mobility, medical, psychological, and sensory. Services provided may include adaptive technology, alternative text, note-taking, sign-language interpreters, residential life, and test-taking. Literacy software, called Read and Write Gold, is available to all students and includes features such as text-to-speech, scanning, and a read-aloud dictionary.

Through collaboration and support of the entire campus community, the Access Center promotes disability pride, program accessibility, and universal design principles so that everyone has full access to university life.

Union Program Council

Union Program Council (UPC), K-State's premier student-led event planning organization, provides entertainment to the K-State community and an opportunity for students to gain leadership skills. UPC plans more than 100 programs each year for students by students. UPC's student volunteers determine the big campus entertainment act for the year, plan social events to build community, choose the art exhibited in the William T. Kemper Art Gallery, expose you to different cultures with their multicultural programming and organize a substance-free **After Hours** event Friday nights during the semester.

All students are encouraged to get involved with UPC. Students who want to get involved should contact **UPC** on the web, by phone 785-532-6571, or follow them on Instagram.

The Union is also the home of many student offices: the Student Governing Association (SGA), Student Programs and Involvement (SPI), Fraternity and Sorority Life Office (FSL), Military Affiliated Resource Center (MARC), Union Program Council (UPC), Union Governing Board (UGB), and the campus radio station, Wildcat 91.9.

Student Government

E-mail: sga@k-state.edu

www.k-state.edu/sga

The purpose of the Student Governing Association is to help students voice concerns, suggestions, or grievances. Every student is a member of SGA and is represented by student senators from their college, and by the student body president and vice president. The student senators, student body president, and vice president are elected by the K-State student body.

SGA is divided into three branches: legislative, judicial, and executive. Student Senate makes up the legislative branch. It is composed of standing committees including funding allocations committees; student services fee; and senate operations.

The judicial branch is composed of the judicial council, student review board, student tribunal, and the parking citations appeals board.

The student body president, vice president, and cabinet make up the executive branch. The president has the responsibility to promote the general welfare of the students and acts as the official voice of the student body to the faculty, administration, and public.

Upward Bound Program

Upward Bound at K-State Salina Campus

Upward Bound K-State SalinaCampus
2310 Centennial Road
785-826-2640
www.salina.k-state.edu/upwardbound

Upward Bound is a federally funded campus-based TRIO program designed to assist low income and underrepresented students with college potential who need additional academic preparation, advisement, and encouragement to succeed in high school and later, in college. The Upward Bound program participants are involved in the program from the time they are selected for participation until they graduate from high school. The program offers a six-week summer residential component and academic advising sessions during the academic year.

The mission of the Upward Bound program at K-State Salina is to promote enrollment and persistence in post-secondary education for program participants and their families by providing academic, social and emotional support. The Salina Upward Bound program serves students from Ell-Saline, Clay Center, Lincoln, and Newton high schools.

Support Services

Early Childhood Laboratory

1701 N. Manhattan Avenue
785-532-2226
Fax: 785-532-3537
E-mail: stonehouse@k-state.edu
https://www.hhs.k-state.edu/stonehouse/lab/

The Early Childhood Laboratory, located at the Hoeflin Stone House Early Childhood Education Center, houses a part-day preschool classroom and is sponsored by the School of Family Studies. The Early Childhood Laboratory is licensed by the state and is accredited by the National Academy of Early Childhood Programs. The children enrolled in the program range in age from three to five years. Children who are eligible by age to enter kindergarten are not eligible for enrollment in the program. The group is balanced by age and sex of the children. Within these guidelines, children are accepted by date of application. The total group size is 15 children. The half-day preschool sessions are operated Monday through Thursday, 8:30 - 11:30 a.m.

K-State Family Center

139 Campus Creek Complex
785-532-6984
Fax: 785-532-6523
E-mail: family@k-state.edu
www.hhs.k-state.edu/familycenter

The K-State Family Center is the marriage and family therapy clinic housed in the Campus Creek Complex. The Center provides applied educational training to students while offering counseling, family-related educational programs, consultation and mediation services for Manhattan and the surrounding communities. MFT faculty, doctoral and masters interns staff the Family Center providing individual, couple, family and group therapy for a range of mental health and family related issues. The Center uses a sliding fee scale making services affordable for all economic ranges. Appointments are available Monday through Thursday from 8am-9pm and on Fridays from 8am-5pm. The Family Center is also home to the state sponsored home-based family therapy training project providing training on home-based family therapy for clinicians throughout the state of Kansas. This training is sponsored through a contract with KDAD's.

Hoeflin Stone House Early Childhood Education Center

1701 N. Manhattan Ave
785-532-3537
E-mail: stonehouse@k-state.edu
www.hhs.k-state.edu/stonehouse

The Hoeflin Stone House Early Childhood Education Center is located on the north side of campus at 1701 North Manhattan Avenue. The two-story house and architect-designed playgrounds support the development of young children from six weeks to 5 years of age. Children who are eligible by age to enter kindergarten are not eligible for the program. Eight children are enrolled in the infant room. The toddler group accommodates 10 children. Thirty children are enrolled in the preschool group. The groups are balanced by sex and age of the children. Priority is given to children whose parents work full time. Within these guidelines, children are accepted by date of application. The center is available only for full-day enrollments, five days a week. The hours are 7:30 a.m. to 5:30 p.m., and the center is open for most of the year, with the exception of university holidays, three weeks in August, and two weeks at the end of December. The Hoeflin Stone House Early Childhood Education Center is licensed by the state and is accredited by the National Academy of Early Childhood Programs.

Other Research Facilities and Equipment

A variety of specialized facilities is maintained to support research and scholarly work in the humanities, natural sciences, applied sciences, social sciences, and professional areas. Although an exhaustive listing is prohibitive, the following list represents a selection of supporting resources:

- Aquatic and terrestrial research laboratories
- Arp electronic music synthesizer
- Audiovisual materials center
- Center for Excellence in Computer-Controlled Automation
- Center for Extended Services and Studies
- Computer-Aided Design Laboratories
- Consortium for Political Research data banks

Controlled environment test facility
Editorial offices of major journals
Experimental animal facilities
Financial Therapy Clinic
Fourier transform spectroscopic laboratory
Glassblowing and instrument shops
Greenhouses
Heliodon and wind tunnel
Herbarium and monographic library
Insect reference collection
Interior architectural shops
Marriage and Family Therapy Clinic
Near infrared protein laboratory
Nuclear magnetic resonance spectrometers
Physiology of exercise laboratory
Plant disease diagnostic laboratory
Population and demographic laboratory
Recording Raman spectrometer
Scanning electron microscope
Soil testing laboratory
Speech and Hearing Center
Statistical laboratory
Textile chemistry laboratory
Textile conservation laboratory
Transmission electron microscope
Veterinary diagnostic laboratory
Weather data laboratory
Wind and soil erosion laboratory
X-ray diffractometers

Scholarly and Professional Publications

College of Architecture and Design Newsletter of the Rural/Small Town Planning Division, American Planning Association-information, articles, and essays on the nature of rural/small town planning. Oz, modern architectural trends.Environmental and Architectural Phenomenology Newsletter, information and features on environmental design as place making.

College of Education Educational Considerations, timely papers on educational issues at all levels. Media Adult Learning, research, reviews, papers.

College of Engineering Kansas State Engineer, technical and nontechnical articles on engineering developments. Research Activities, biennial report on research in the College of Engineering.

College of Veterinary Medicine Veterinary and Human Toxicology, toxicology, research, reviews, and field observation.

Continuing Education National Issues in Higher Education, proceedings of annual meetings on educational issues. IDEA Papers, series on college teaching, from the Center for Faculty Evaluation and Development.

Cooperative Agricultural Extension Numerous publications about research, in varied formats for various audiences.

Department of English Literary Magazine Review, reviews of literary magazines and commentary on the international noncommercial literary magazine scene. Touchstone, student literary magazine. The Spenser Newsletter, the official publication of the Spenser Society.

Department of History Journal of the West, history and culture of the U.S. West.

Department of Modern Languages Studies in Twentieth Century Literature, literary theory and practical criticism of 20th-century literature in French, German, Russian, and Spanish (with University of Nebraska, Lincoln).

Libraries Bibliography Series, each bibliography on a different topic.

University Press of Kansas

Charles Myers, Director
2502 Westbrooke Circle
Lawrence, Kansas 66045-4444
785-864-4154
785-864-4586 Fax
E-mail: upress@ku.edu
www.kansaspress.ku.edu

Kansas State University, in association with the other five Regents universities, operates and supports the University Press of Kansas for the purpose of publishing scholarly and regional books on a nonprofit basis. K-State joined the consortium in 1967 when the press was officially reorganized by the Kansas Board of Regents. Until mid-1982, the operation was known as the Regents Press of Kansas.

The University Press of Kansas is the first American university press to operate as a statewide consortium under the specific sponsorship of all the state's universities. A member of the Association of American University Presses since its founding in 1946, the press has published over 1400 titles, with more than 975 currently in print. Its ongoing American Presidency Series, with 35 titles issued to date, has been praised as one of the most interesting and rewarding historical series in this country.

The press is governed by a board of trustees, who are the chief academic officers of the sponsoring institutions and who appoint two members and two alternates from each faculty to serve on the advisory editorial committee.

Undergraduate Admission

Patrick Winter, Associate Vice Provost and Executive Director
Molly McGaughey, Director

Office of Recruitment and Admissions
Kansas State University
119 Anderson Hall
919 Mid-Campus Dr. North, Manhattan, KS 66506-0121
785-532-6250

E-mail: k-state@k-state.edu
www.k-state.edu/admissions

General Admission Information

The Office of Recruitment and Admissions on the Manhattan campus supports all undergraduate students in the application process. Prospective undergraduate students interested in attending Kansas State University in Manhattan, Polytechnic (Salina), Olathe, or online may request information or receive communications from this office.

Prospective undergraduate students may apply for admission by submitting an electronic application.

To complete an application all necessary supporting documents and credentials must be sent directly to the Office of Recruitment and Admissions by mail, fax or electronically to be considered official. Official transcripts must be sent from each institution attended. Official test scores must be sent by the testing agency.

All documents submitted become the property of the university and cannot be returned or copied.

Various categories of admission are listed below which indicate specific academic admission requirements as established by the Kansas Board of Regents Qualified Admission regulations and university policy.

Kansas State University prohibits discrimination on the basis of race, color, ethnicity, national origin, sex (including sexual harassment and sexual violence), sexual orientation, gender identity, religion, age, ancestry, disability, genetic information, military status, or veteran status, in the University's programs and activities as required by applicable laws and regulations.

The university may consider campus safety and the past conduct of prospective students when making admissions decisions. Prospective students who have person crime or felony criminal history, have been suspended or expelled from a previous institution, or are required to register with local law enforcement are required to be cleared by Admissions Conduct Evaluation Team before admission can be considered.

Undergraduate Admission Application Fees

A non-refundable application fee of $40 is required for domestic applicants. Applications are not processed until the application fee is received.

Application fees for new students expire after one academic year if the student does not enroll and attend Kansas State classes.

Exceptions to application fee

High school concurrent students: If a student has paid the fee AND attended class(es) at Kansas State during high school, they will not be required to pay it again.
Readmission: If a student has paid the fee AND attended Kansas State as an undergraduate, they are not required to pay it again.
Waivers: Students with financial need can work with educators to provide a fee waiver.
Sponsorship: Various entities may sponsor application fees for students in special populations.

Glossary of Admission Terms

Apply for admission: The process of submitting the electronic application and supporting credentials so that an official determination of eligibility to attend the university can be made.

Enrollment: The process of selecting courses and arranging a schedule of classes for the semester.

Exception: A category of admission in which the student does not meet qualified or assured admission but is granted admission.

Freshmen: High school graduates with no earned college credits after high school graduation. Students taking college-level work while in high school are considered new freshmen.

Non-degree students: Students not pursuing a degree who have been admitted for specific purposes or at the discretion of a director. Generally, these students are limited to 15 hours of credit from K-State. Other restrictions may apply. Non-degree students are not eligible for financial assistance.

Official test scores: Any results that are received directly from the testing service (ex. ACT, AP, CLEP, SAT, TOEFL). Scores noted on high school transcripts, personal reports, etc., are not official results.

Official transcript: A transcript that is sent directly by mail, fax or electronically from the registrar of a credit-granting institution to the K-State Admissions Office. Personal grade reports or student copies of transcripts are not official records.

Readmitted students: Any student who has previously been admitted and attended K-State courses at any time since high school graduation.

Special students: Students not pursuing a degree but have indicated they intend to take more than 15 credit hours. Special students must meet all standard admission requirements. Special students may not be eligible for financial assistance.

Transfer students: Students who have taken college-level courses after high school graduation.

Freshman Admission Requirements

Students categorized as degree-seeking freshmen may have different educational backgrounds.

Students who attend/attended high school under the age of 21

Admission to the university is test-optional and requires achieving EITHER:

A cumulative high school GPA (weighted or unweighted) of 3.25 or higher on a 4.0 scale OR
ACT composite score/superscore of 21, or an SAT ERW+M score/superscore of 1060 or higher
AND, if applicable, achieve a 2.0 GPA on all college credit taken in high school.

Students who have completed a high school equivalency exam

GED participants must meet the following based on when testing occurred:

Tested January 2014 or later: Have an overall score of 680 and minimum score of 150 on each subtest.
Tested between January 2002 and December 2014: Achieve a 2,550 overall GED score and at least 510 on each test.
Tested before January 2002: Achieve an overall score of at least 250 and a minimum score of 50 on each subset.

HiSET participants who took the exam after January 1, 2014, must:

Achieve an overall score of 75 and a minimum score of 8 on each subtest.

Homeschooled students

Homeschooled students will be considered for admission on the same basis of ACT, SAT, or GED/HiSET scores. Students must submit scores and high school transcripts. Contact the Office of Recruitment and Admissions if you have questions about home schooling qualifications or requirements for admission.

Adult students

Students who will be 21 or older at the start of class and have graduated from an accredited high school or completed a high school equivalency exam (defined in preceding section), may be admitted to Kansas State University without meeting the state's ACT/SAT score or high school GPA criteria. Adult students are required to have a cumulative college GPA of 2.0.

Please note some majors use selective admission or have different requirements. See "Majors with Different Requirements" section.

Freshman application process

High school students are encouraged to initiate the application process early in their senior year by submitting a completed application and the nonrefundable application fee. Currently high school students are allowed to self-report academic information. But each student should also submit any official scores from the American College Test (ACT) or from the Scholastic Aptitude Test (SAT).

K-State accepts ACT results for purposes of making admission decisions. The ACT college code number for K-State is 1428.

K-State accepts SAT results for purposes of making admission decisions. The SAT college code for K- State is 6334.

Following graduation from high school, an official eighth-semester transcript showing the date of high school graduation must be submitted. High school equivalency exam results may substitute for a transcript.

Transfer Admission Requirements

Students categorized as degree-seeking transfers may have different educational backgrounds.

- Students who have earned college or university credit after high school graduation must have a minimum cumulative GPA of 2.0 on a 4.0 scale from an accredited institution to qualify for admission to the university.
- Students transferring fewer than 24 credit hours must meet the transfer and freshmen requirements for admission.

Please note some majors use selective admission or have different requirements. See "Majors with Different Requirements" section.

Transfer application process

Application procedures require a completed application form, the nonrefundable application fee, and complete official transcripts from all previous colleges or universities.

Transfer applicants who have earned less than 24 hours of transfer credit must also submit an official final high school transcript showing their graduation date and ACT or SAT scores. Information about institutions previously attended is required to be submitted upon application, and transcripts must be submitted regardless of the applicant's preferences concerning use of previously earned credit.

Applications that do not include all college work on the application for admission are considered fraudulent. See "Fraudulent Applications" section.

All documentation must be sent directly to the Office of Recruitment and Admissions by mail, fax, or electronically from each institution attended. All documents submitted become the property of the university and cannot be returned or copied.

The College of Arts and Sciences offers an option to enter the university without declaring a specific program of study. This Open Option program is limited to students who have earned less than 60 college-level credit hours. If you have earned 60 or more credit hours you must specify a major.

Transfer Credit and Prior Learning

Most academic credits from regionally accredited community colleges and universities are transferable to K-State. Up to half of the hours required for a K-State baccalaureate degree can be taken at a two-year college.

Official evaluation of transfer credit is part of the admission procedure. Application of transfer credit toward degree requirements is determined by each college and major department. See the complete transfer credit policy. https://www.k-state.edu/admissions/undergrad/manhattan/apply/transfer/transfer-credit-policy.html The university does not consider non-transferable work or transfer work from institutions that have not been regionally accredited in the admission decision.

Kansas community college articulation

K-State has transfer articulation agreements with the 19 Kansas community colleges. Students who have received an associate of arts or an associate of science degree from a Kansas community college are guaranteed junior classification.

All credits of an associate degree are not necessarily applicable toward a bachelor's degree; additional freshman, sophomore, and general education courses may be required to meet degree requirements.

The associate of applied science (AAS) and associate of general studies (AGS) degrees will only transfer into specific bachelor's programs. Generally, these degrees will only apply toward bachelor degrees in areas related to technical occupations.

Additional details

K-State implements decisions made by the Kansas Board of Regents' Transfer and Articulation Advisory Council to ensure consistency of transferability.

Specific information on college credit transfer, military credit transfer, and test credit transfer can be found on the university's prior learning site. https://www.k-state.edu/prior-learning

Students with Unusual Academic Circumstances

Kansas State University realizes there are circumstances that may prevent students from meeting the freshman or transfer admission requirements. Students who have encountered unusual situations that may have kept them from meeting the requirements for admission should bring those circumstances to the attention of an admissions director.

In some situations, a student who has not met the established admission requirements may be admitted.

Admission by exception

Admission as an exception the freshman or transfer admission requirements is limited to 10% of the admitted pool for an academic year. Such offers of admission are based on past academic record (secondary and/or post-secondary GPA, test scores) and any other materials provided by the student for holistic review (personal statements or letters of reference). Exception admission decisions are based on space availability, past academic performance, and individual characteristics and achievements.

Degree-seeking students admitted by exception are required to participate in special advising and retention programs. Students who do not meet these requirements may have admission revoked or be disenrolled.

Readmission

Students considered for readmission are defined as any undergraduate student who has previously been admitted and attended K-State courses at any time since high school graduation, or any undergraduate student who was admitted to and attended classes after high school graduation.

Students need to reapply and be readmitted if they have graduated from K-State and want to return for further undergraduate work, have not been enrolled at K-State for at least one fall or spring semester, or have been dismissed from K-State. There is no readmission application fee.

A dismissed student will be readmitted only when approved for reinstatement by the academic standards committee of the college the student is attempting to enter; the application for reinstatement must be directed to the pertinent academic standards committee. In addition to the student's application for readmission, the Dean's office of the academic unit must submit a reinstatement form to the Office of Recruitment and Admissions.

Graduate students who have attended graduate school at K-State or earned a K-State graduate degree but have never been an undergraduate student at K-State, must file an undergraduate application and pay the application fee.

Special and Non-degree Student Admission

Several categories of special and non-degree students exist at K-State. All students are subject to stated requirements and are responsible for payment of all fees, regular attendance at classes, and maintenance of satisfactory standing. Special and non-degree-seeking students are not eligible for financial assistance. Special and non-degree options are not available for international students on student visas.

Non-degree-seeking student applicants

Some students may be admitted as non-degree-seeking students at the discretion of the Office of Recruitment and Admissions. Non-degree-seeking students must submit the admission application and application fee. These students will be allowed to complete a maximum of 15 semester hours in non- degree status. In order to pursue work beyond the 15-hour limit, students must notify the Office of Recruitment and Admissions of the selected degree program, meet all degree-seeking admission requirements as described above and may be required to sign an agreement specifying the terms of their admission as a degree-seeking student.

Special student applicants

Students who do not intend to become candidates for a degree may apply for admission as special students. Such students must submit the admission application, application fee, test scores, and appropriate transcripts. Special student applicants must meet standard admission requirements.

High school concurrent students

Outstanding high school juniors and seniors may be admitted to take courses while completing their high school requirements. High school students must submit an application, application fee, a recommendation from the high school, an outstanding high school academic record, and specify the courses in which they plan to enroll.

Younger students may be granted admission under special circumstances. In addition to the documents mentioned above, students under age 16 must file a letter of consent from a parent/guardian and receive approval to enroll in the selected class from the K-State department offering the class.

The university monitors the progress of all pre-college students very carefully. Students are approved for enrollment on the basis of space available in the selected class and success in prior university course work, if applicable.

International Admission

For purposes of admission, international applicants are defined as all persons who are not citizens or permanent residents of the United States.

Generally, international applicants seeking admission to Kansas State University must meet the same academic standards for admission as those required of domestic applicants. There are wide variations, however, between educational systems throughout the world that make exact comparisons of educational standards difficult. International applicants are selected on the basis

of their prior academic work, probability of success in the chosen curriculum (as evidenced by prior work in the academic area involved), and certification of adequate financial resources.

International applicants must submit a completed international application form; an $80 non-refundable application fee; translated secondary schooling records, or a credentials evaluation report and when applicable, translated college transcripts.

In order to issue immigration documents (such as an I-20) for students, an affidavit of financial sponsorship and bank statement and also required.

TOEFL/English proficiency

If you meet the academic requirements, Kansas State University may admit you with no proof of English proficiency. Once you arrive, you will be required to take the English Proficiency Test (EPT). The results of the English Proficiency Test (EPT) will determine if you have to study English, either full-time or part-time, or if you are ready to begin full-time university classes.

English proficiency requirements for unconditional admission:

1. Transfer students from a U.S. institution must have completed BOTH
    a. 24 credit hours at an accredited U.S. institution
    b. English Composition I and II with grades of C or better
2. IBT (Internet Based TOEFL) - composite score of 79 or higher
3. IELTS - composite score of 6.5 or higher
4. ACT - English part score of 21 or higher
5. SAT - verbal part score of 530 or higher
6. PTE - Pearson Test of English - overall score of 53 or higher
7. Eiken (Pre-1 Score)
8. DET - Duolingo English Test score of 110
9. Four years attendance in a U.S. high school with grades of C or better in all college preparatory courses

All standardized test scores must be **submitted by the third day of class** in order to waive English Proficiency Testing and English classes for the semester.

*****Score submission dates are NOT negotiable.*****

Invalidation of Test Scores

If a student does not have validated test scores or if the test score has been invalidated by the issuing institution, the student has the following options:

1. Reapply for a different semester and submit other validated test scores prior to arrival.
2. Take the English Proficiency Test upon arrival.

Students will not be allowed to enroll in academic classes until validated proof of English proficiency has been shown.

If the university determines a test score must be invalidated due to apparent fraud by the students, the student may appeal to the office of Honor and Integrity.

Priority deadlines for international application

Feb. 1: Fall semester
Nov. 1: Spring semester

Feb. 1: Summer semester

Advanced credit for international evaluation

The following methods are used by Kansas State University to validate the awarding of advanced standing credit for international students who have completed work in their home countries at the post-secondary level:

1. Credit is granted based upon recommendation by recognized academic publications. For a credential evaluation to be accepted, the credential evaluation service must be a member of NACES (National Association of Credential Evaluation Services).

2. Validation by an academic department at Kansas State University. Students initiate validation of prior academic experiences through their college dean's office. Validation by one of the following two options will be at the discretion of the credit-granting department:

a. Course-by-course evaluation examination by comparable K-State academic department.

b. The advisor and/or academic dean's office makes a preliminary evaluation of the level a student has completed and begins the student at that level. Upon successful completion of that course, all related lower-level courses in that area, as determined by the department granting credit, would be validated and credit awarded.

Enrollment requirements

All new students whose primary language is not English must demonstrate English Language proficiency before completing enrollment for the first time at the university. This requirement applies to international and non-international, permanent residents, immigrants, transfer and non-transfer student alike. An assessment test of written and spoken proficiency is given by the English Language Program prior to each enrollment period. Based on results of the student's proficiency, the director of the English Language Program may recommend one of the following enrollment options.

1. Full-time study in the English Language Program until adequate proficiency is demonstrated.

2. A combination of part-time study in the English Language Program and part-time study in the academic area until adequate proficiency for full-time academic study is demonstrated.

3. Full enrollment in an academic program with no English language requirements.

Residency

Initial residency with regard to tuition categories is determined by the Office of Recruitment and Admission. Resident tuition classification is determined by criteria found in Kansas statutes and regulations of the Kansas Board of Regents. Students are responsible for providing information sufficient to support their applications for resident classification.

Fraudulent Applications

An individual who intentionally withholds or provides fraudulent information on an application for admission or readmission may be subject to denial of admission, disenrollment, or immediate dismissal from the university. Such decisions will be made by the director of admissions or a designated admissions officer after a complete review and consultation with the appropriate academic unit. The individual has the right to appeal the decision within three business days by requesting a conference with the Vice Provost for Enrollment Management. The Vice Provost for Enrollment Management or a designee is authorized to hold the conference and issue a decision.

Majors with Different Requirements

Admission requirements for different student types assure admission to the university but some majors and programs utilize selective admission or have established other criteria.

Academic Program	Type of Student	Requirements
Architecture, Interior Design, Industrial Design, Landscape Architecture, Regional and Community Planning, College of Architecture, Planning and Design, Interior Design	Freshman and Transfer	Admission is selective based on academic performance and space availability. Fall entry term only. Priority dates for completed application consideration and/or accepting an offered seat are established by the program.
College of Business Administration	Transfer	Transfer students must have a cumulative college/university GPA of 2.5 or higher.
Carl R. Ice College of Engineering	Domestic freshmen or transfer	Admission is selective based on academic performance and space availability. Fall entry term only. Priority dates for completed application consideration and/or accepting an offered seat are established by the program.
Music and Music Education, College of Arts and Sciences	Freshmen or transfer	Enrollment in specific studios requires an audition. Admitted students will be sent details regarding audition options.
Professional Pilot, College of Technology and Aviation	Freshmen or Transfer	Admission is selective based on academic performance, space availability, and holistic review. Priority dates for completed application consideration and/or accepting an offered seat are established by the program.
Psychology, College of Arts and Sciences	Transfer	Transfer students must have a cumulative college/university GPA of 2.5 or higher.

Auxiliary Services and Facilities

Office of Institutional Equity
Alumni Association
Child Care: K-State Center for Child Development
Child Care: School of Family Studies and Human Services
Communications and Marketing
Information Technology Services (ITS)
K-State Family Center
K-State Speech and Hearing Center
KSU Foundation
Libraries
Police Department
Postal Service
Collegian Media Group
University Press of Kansas

Note: All addresses are in Manhattan, unless otherwise noted.

Office of Institutional Equity

103 Edwards Hall
785-532-6220
E-mail: equity@k-state.edu
www.k-state.edu/oie

The Office of Institutional Equity is available to students on matters of equal opportunity in admissions, access to University sponsored programs and activities, and employment due to race, color, ethnic or national origin, sex, sexual violence, sexual orientation, gender identity, religion, age, ancestry, disability, military status, veteran status, dating or domestic violence, or stalking. Students with concerns about any of the basis listed above may contact the office. The Office of Institutional Equity also includes the University's Title IX Coordinator and investigation team. These individuals are available to assist in coordinating support and services to students in need of assistance after experiencing any form of discrimination, harassment, sexual violence, stalking, or relationship violence.

Alumni Association

K-State Alumni Association
1720 Alumni Center
785-532-6260 or 1-800-600-2586
E-mail: alumni@k-state.com
www.k-state.com

The K-State Alumni Association is a 41,000-member, nonprofit organization whose mission is to lead and inspire lifelong involvement that will benefit Kansas State University and all members of our Wildcats Community. This is accomplished through student recruitment programs, quality publications and communications, constituent events, affinity programs and maintenance of records on more than 320,000 alumni and friends.

Child Care

K-State Center for Child Development

1 Jardine Drive
785-532-3700
E-mail: childcare@k-state.edu
www.k-state.edu/ksucdc

The K-State Center for Child Development is a Student Support & Accountability department serving the child care and early childhood education needs of K-State students, faculty, staff and the community. It is fully licensed by the Kansas Department of Health and Environment and is a nationally accredited program through NAFYC. It is professionally staffed and uses a nationally acclaimed curriculum. The Center also partners with Child Care Aware of America to offer subsidies to military families. The Center provides a variety of subsidies to make childcare affordable to families. The Center offers full-day high quality and educational programs for infants through prekindergarten children and school age in the summer. The Center is open year-round offering care Monday through Friday from 7 a.m. to 5:30 p.m.

School of Family Studies and Human Services

303 Justin Hall
785-532-5510
Fax: 785-532-5505
E-mail: fshs@k-state.edu
www.hhs.k-state.edu/fshs

The School operates six early childhood classrooms for children aged 6 weeks through five years at The Stone House Ruth Hoeflin Early Childhood Education Center and C.Q. and Georgia Chandler III Institute for Child and Family Studies on N. Manhattan Avenue. The site serves as a teacher training facility for students enrolled in the pre-service early childhood education program. Enrollment in the program is open to members of the K-State and Manhattan communities. The facility is licensed by the state of Kansas and accredited by the National Association for the Education of Young Children. The learning environments and planned experiences are designed to foster children's cognitive, language, social, emotional, and physical growth and development. Enrollment application forms are available online.

Four of the classrooms provide year-round, full-day care and education for the children ranging in age from 6 weeks through five years of age. Priority in enrollment is given to children of parents working full- time. Two classrooms, The Early Childhood Laboratory, host an interagency program with USD 383. The classrooms integrate children identified by USD 383 who have delays and/or disabilities with non-handicapped children. Forty-eight children, ranging in age from 3 to 5 years, are enrolled in this part-year, part-day preschool program.

K-State Family Center

139 Campus Creek Complex
785-532-6984
Fax: 785-532-6523
E-mail: family@k-state.edu
www.hhs.k-state.edu/familycenter

The K-State Family Center provides applied educational training to students while offering counseling, family-related educational programs, consultation, and mediation services to Manhattan and the state. On-site services include individual, couple, family and group therapy, and parent education. Outreach programs include contracts with Junction City Smart Start program providing home-based family play therapy, parent education and staff consultation. State sponsored home-based family therapy training is also provided for clinicians throughout the state through contracts with SRS and KHS.

Communications and Marketing

128 Dole Hall
785-532-2535
Fax: 785-532-7355
E-mail: jbmorris@k-state.edu

The Division of Communications and Marketing has a mission to fully integrate our university image and message delivery; to increase the impact and efficiency of institutional and marketing objectives; and to unify the brand voice in order to continue K-State on the path to an improved state, national, and international reputation. The division is charged with creating and leading a comprehensive communications and integrated marketing program that emphasizes Kansas State University's unique brand and enhances the visibility of the university.

University Services

128 Dole Hall
785-532-2535
Fax: 785-532-7355
E-mail: ashley07@k-state.edu

128 Dole Hall
785-532-2535
Fax: 785-532-7355
Email: aprosser@k-state.edu
www.k-state.edu/marketing

University Marketing provides marketing consulting services for strategic enrollment management, as well as Presidential and Provost initiatives. Our staff members serve as first points of contact/project managers for university partners to access all Division creative services. Additionally, we develop marketing/promotional content for use across all media and channels.

Design Services

128 Dole Hall
785-532-2535
Fax: 785-532-7355
E-mail: abclevel@k-state.edu
k-state.edu/design

Design Services is responsible for designing and coordinating production for print and Web projects used in the advancement of Kansas State University.

Photographic Services

128 Dole Hall
785-532-2535
Fax: 785-532-7355
E-mail: photo@k-state.edu
k-state.edu/photo

Photographic Services offers location and studio photography. We offer walk-in portrait days twice monthly.

News and Communications Services

128 Dole Hall
785-532-2535
Fax: 785-532-7355
E-mail: cholling@k-state.edu
media@k-state.edu

socialmedia@k-state.edu
www.k-state.edu/media

News and Communications Services coordinates public information about K-State and is the official outlet for K-State news. The unit administers the general university social media accounts and offers editing and writing assistance to university colleges, departments and units. It also works in conjunction with emergency management personnel to provide crisis communications. Additionally, News and Communications Services edits and distributes distributes the university's official daily newsletters, *K-State Today*, for faculty and staff, and *K-State Today Student Edition*. The unit also works in conjunction with the Vice President for Research to publish the university's flagship research magazine, *Seek*.

Video and Engineering Services

128 Dole Hall
785-532-2535
Fax: 785-532-7355
E-mail: ves@k-state.edu
www.k-state.edu/video

Video and Engineering Services offer a full-service production facility with skilled broadcast and production professionals ready to assist with studio, remote, or other video production needs. Facilities include a professional broadcast studio, remote production truck and digital satellite uplink vehicle. From pre-production to post-production, Video and Engineering Services is a "one-stop shop" for audio and video production.

Web Services

128 Dole Hall
785-532-2535
Fax: 785-532-7355
Email: webservices@k-state.edu
www.k-state.edu/webservices

Web services promotes a consistent, positive image of K-State by managing the university's Web presence and overseeing K-State's content management system. Services include Web design, information architecture, multimedia content, user experience research and email marketing.

Information Technology Services (ITS)

IT Help Desk
214 Hale Library
785-532-7722
(800-865-6143 toll free)
Fax: 785-532-3199
E-mail: helpdesk@k-state.edu
www.k-state.edu/its

The university provides technology resources and facilities for faculty, staff, and student use. K-State's high-speed data network allows access from residence halls, off-campus, the K-State Student Union, the library, university computing labs, technology classrooms, and locations equipped with wireless access points.

To learn about information technology at K-State, visit the Welcome to IT at K-State website.

For questions or assistance with any information technology resources, contact the IT Help Desk at 785-532-7722 or visit the IT Help Desk website.

Responsible use of the university's technology resources is expected of everyone. All K-Staters must comply with the university's IT policies.

eIDs and passwords

K-State students and employees have an electronic identifier (eID) on the central computer system. It allows access to email, KSIS the student information system, K-State Online, the K-State wireless network, Zoom videoconferencing, HRIS Self-Service and more.

Passwords must be changed every 180 days. To complete this update, visit the eProfile page.

K-State will never ask for your password in an email. Delete any email that asks for your password.

Email

K-State provides email service to all students and university employees. Your official, primary K-State email address has two forms: eid@k-state.edu and eid@ksu.edu. The university sends official correspondence to K-Staters via their primary email addresses with full expectation that communications will be received and read in a timely manner.

For information about the central email services offered at K-State, visit the website.

Microsoft Office software

Office 365 ProPlus is free for all K-Staters. It includes desktop and mobile app versions of Microsoft Office and can be installed on up to five PCs or Macs, five tablets, and five phones: k-state.edu/its/office365/help.

Antivirus and security

K-Staters must protect their computers from security risks and threats.

Those who use the campus network must install K-State's free antivirus software. The latest version can be downloaded from the K-State antivirus website.

The IT security website has news, policies, and preventive measures.

Emergency notices (K-State Alerts)

K-State Alerts is the campus emergency notification system. Sign up at eid.k-state.edu to receive emergency text messaging and phone calls.

Computing labs and InfoCommons

More than 400 computers and printing facilities are available in Hale Library and in university computing labs throughout campus. Computer labs provide free access to electronic information resources and software programs, including email, internet

access, word processing, spreadsheets, databases, statistical analysis, and programming languages. To locate computer labs on campus and learn more, visit the computing labs and InfoCommons website.

Media Development Center

The Media Development Center in 213 Hale Library provides free resources, tutorials, and assistance. Create videos; scan and edit photos and images; make music and audio recordings; and more. Multimedia equipment includes a color printer, a 3-D printer, CD/DVD burners, a variety of scanners, a sound booth, and video-editing resources. Visit the MDC website for additional information.

Equipment checkout

Cameras, laptops, and audio-video equipment are available for free checkout. Call 785-532-4918, email itacrecp@k-state.edu, or visit the website to reserve equipment.

Connecting to K-State (wireless and direct network)

There are two ways to connect to the campus data network and then to the internet:

Direct network connection, using a hard-wired line and an Ethernet card.
K-State buildings are directly connected to the internet.

Wireless network connection.
K-State's wireless computer network allows laptops and other mobile-computing devices to link to the internet without being physically tied to an Ethernet connection line.

A current K-State eID and password is required to configure your device and access the secure wireless network. For more information visit the website.

Three wireless networks are available. KSU Wireless is for all K-Staters, and KSU Housing is for residence halls and Jardine Apartments. KSU Guest provides basic Internet access, but cannot access protected campus resources such as webmail, KSIS and HRIS. For more information visit the website.

Information resources

Web-based information resources include the student information system (KSIS); the library catalog system; the K-State Research Exchange institutional repository; K-State Online Classic and K-State Online powered by Canvas and more. The IT Services Directory has a complete list of links to many resources. For more information visit the website.

Computer repair

Computer repair (a service of iTAC) provides fee-based computer and peripheral repair services to the campus community and for home computers of students, faculty, and staff. Contact the IT Help Desk for details. Support staff also install and configure software; provide warranty support for Apple and Dell computers; remove malware and more.

Chief Information Officer and Vice Provost for Information Technology Services

Gary Pratt, Chief Information Officer
Rob Caffey, Special Assistant to the CIO

Betsy Draper, Associate Vice Provost
116 Unger Complex
2323 Anderson Ave.
785-532-6520
E-mail: its@k-state.edu
www.k-state.edu/its

Network and Telecommunications Services (NTS)

Danny Fronce, Director
1105 Sunset Avenue
785-532-7000
E-mail: nts@k-state.edu
www.k-state.edu/nts

Network and Telecommunication Services (NTS) provides phone services, data and networking services, and local service and cable TV for students living in residence halls. For a full list of services, visit the website.

Information Systems Office (ISO)

215 Unger Complex
2323 Anderson Avenue
785-532-6281
E-mail: iso@k-state.edu
www.k-state.edu/iso

The K-State Information Systems Office provides application development services and database management services in support of enterprise application systems. Application Development Services installs, develops, and maintains enterprise systems facilitating central administrative functions such as accounting, payroll, budget, human resources, admissions, student records, student financial assistance, facilities management, and parking. Database Management Services provides database administration services supporting all enterprise database applications.

Information Security & Compliance (ISC)

12A Hale Library
www.k-state.edu/its/security/

The K-State Office of Information Security and Compliance manages the IT security infrastructure of the University, works to help all K-Staters understand the importance of good security practices in the use of technology at K-State, and helps to ensure compliance with legal or regulatory IT mandates.

Information Technology Assistance Center (iTAC)

214 Hale Library
785-532-4918
E-mail: helpdesk@k-state.edu
www.k-state.edu/its/helpdesk/index.html

iTAC is the first point of contact for IT needs including help with eID and passwords and other help desk-related questions, technology classrooms, university computing labs, innovative classroom environments, video conferencing, face-to-face and online technical training, instructional design, equipment checkout, and multimedia development in the Media Development Center.

Office of Mediated Education (OME)

Suite 146 Unger Complex
2323 Anderson Avenue
785-532-5698
E-mail: omeoffice@k-state.edu
ome.k-state.edu

The Office of Mediated Education provides and maintains services and applications in support of the K-State academic mission. Services include: Instructional Design, Web Presentation Services, Audio & Video Webcasting, Application Integration, and CD/DVD Duplication. Applications include: K-State Online, K-State Enterprise Authentication (KEAS), Connect, Pulse and many others.

KSU Foundation

1800 Kimball Avenue, Suite 200
785-532-6266
E-mail: foundation@found.k-state.edu

https://ksufoundation.org/

The KSU Foundation was established in 1944 as the official fundraising arm of Kansas State University. It is a separate, independent organization chartered by the state of Kansas as a 501(c)(3) nonprofit educational corporation. Gifts to the foundation are tax-deductible to the full extent of the law.

Foundation staff members work in close partnership with university administrators, deans and faculty to secure charitable contributions from individuals, corporations and foundations to support identified priorities for the university. Gifts received through the foundation fund undergraduate and graduate student scholarships, establish faculty chairs and professorships, provide departmental support, and enhance the campus infrastructure.

A volunteer board of trustees governs the foundation. A 15-member board of directors meets quarterly and is authorized to act on the trustees' behalf.

K-State Speech and Hearing Center

139 Campus Creek Complex
785-532-6879
E-mail: rgarcia@k-state.edu
www.hhs.k-state.edu/speech/

The K-State Speech and Hearing Center provides evaluation, intervention, and consultation services to individuals with articulation, fluency, voice, language and swallowing, or hearing impairments. These clinical services are available to university students, children, and adults of the surrounding communities. The center provides educational and clinical experiences for students preparing for careers in speech-language pathology and audiology.

Libraries

K-State Libraries
Hale Library
785-532-3014
E-mail: library@k-state.edu
www.lib.k-state.edu

K-State Libraries manifests the land-grant values and rich history of Kansas State University. We elevate academic success as an integral partner in research, learning, and discovery. We advocate for our campus and our community, connect their imaginations to information, and number their successes among our own.

All of the K-State Libraries venues offer areas for individual and group study and often include technology-enabled meeting rooms. Inside Hale Library, the Great Room anchors the third floor Quiet Zone for focused individual work, while the area around Library Help on the second floor is a hub of activity for group projects and study.

When classes are in session, Hale Library is open 24 hours a day, 5 days a week, plus weekend hours. This ensures that whenever students need a place to study, the Libraries can be a first option. Additionally, the Anita C. Lehner 24 Hour Study Area inside Hale Library is open 365 days a year for study space or computer use.

The Libraries employ approximately 100 staff full-time, including faculty librarians, unclassified professionals, and classified professionals. The part-time student staff numbers approximately 60.

Collectively the Libraries maintain three million volumes to support the diverse academic, instructional, and research activities of Kansas State University. Technology allows students and faculty to be outside the library building, off campus, and even out of the country and still have the ability to access online databases, journals, and books. Personal research assistance is available from anywhere through the Libraries' website and services like Ask a Librarian that include chat, text message, and email options. We've been answering your questions since 1863 and finding new ways to do so every day.

In addition to Hale Library, there are five specialized branch libraries: Fiedler Engineering Library, Math/Physics Library, K-State Polytechnic Campus Library, Veterinary Medical Library, and Paul Weigel Library of Architecture, Planning and Design.

K-State Libraries: Elevating Academic Success!

Police Department

108 Edwards Hall
785-532-6412
911 emergency
E-mail: police@k-state.edu
www.k-state.edu/police

LiveSafe

The Kansas State University Police Department helps preserve a safe campus environment where diverse social, cultural and academic values are allowed to develop and prosper.

The department has 23 police officers serving the campus community. Patrols operate 24 hours a day, seven days a week, 365 days a year through the campus, KSU Foundation property, parking lots, residence halls, Jardine apartments and athletic complex grounds.

University police officers derive their authority from KSA 76-726 and are fully commissioned law enforcement officers vested with full police/law enforcement authority with arrest powers. Officers are state-certified and receive their basic law enforcement training from the Kansas Law Enforcement Training Academy. Officers receive a minimum of 40 hours of in-service training each year to maintain their state certification.

24 hour services include Multi-Media Messaging (similar to Text to 9-1-1) through LiveSafe, K-State Alerts, and Wildcat Walk (escort across campus). Additional services provided upon request include ALICE training, Community Safety Talks, and Emergency Operations Planning. Fingerprinting is offered during limited hours.

Postal Service

Contract Post Office
113 Dykstra Hall
785-532-6306 (messages only, clerk will return call)
www.k-state.edu/facilities/operations/cms/ContactractPostOffice.html

Central Mail Services
109 Dykstra Hall
785-532-7751 (distribution of all interdepartmental mail and metering of departmental outgoing mail)
E-mail: centralmailservices@k-state.edu
www.k-state.edu/facilities/operations/cms/

All mail for students must be addressed to their off-campus Manhattan address or residence hall/Greek address. Postage should be applied to this mail, and it should be sent through the United States Postal Service.

Manhattan Post Office personnel deliver U.S. mail directly to university buildings and residence halls and pick up outgoing U.S. mail from various locations on the campus.

The Contract Post Office sells stamps, and other postal supplies; weighs, insures, and registers mail; and receives outgoing U.S. mail.

Collegian Media Group

103 Kedzie Hall
785-370-6355
E-mail: swolgast@collegianmedia.com
www.kstatecollegian.com

K-State students of all majors produce the *Kansas State Collegian* daily newspaper and *Royal Purple* yearbook the nation's most honored tandem of collegiate publications.

Student journalists produce and select all content in the *Collegian* and *Royal Purple*. Their experience as reporters, photojournalists, designers, graphics journalists, illustrators, copy editors, and editors launches them into internships and careers across the nation. A student staff also sells thousands of dollars in advertising to help underwrite the publications.

Collegian Media Group is an independent local agency that publishes the newspaper, yearbook, and Manhappenin' magazine. Its board of directors hires editors in chief and supervises finances, but content decisions rest with the student staffs of the publications. The newspaper advisor also teaches in the A.Q. Miller School of Journalism and Mass Communications.

Royal Purple staffs are hired annually. *Collegian* staffs are hired by semester. Staff applications are available in 103 Kedzie Hall, with applications due in early November and early March for subsequent semesters.

University Press of Kansas

2502 Westbrooke Circle
Lawrence, Kansas 66045-4444
785-864-4154
E-mail: upress@ku.edu
www.kansaspress.ku.edu

Kansas State University, in association with the other five Regents' universities, operates and supports the University Press of Kansas for the purpose of publishing scholarly and regional books on a nonprofit basis. The press is governed by a board of trustees composed of the chief academic officers of the sponsoring institutions.

K-State Athletics

Gene Taylor, Director of Athletics
E-mail: kstatead@kstatesports.com
www.k-statesports.com

Head Coaches: Burke, Dibbini, Hughes, Klieman, Mansfield, Mittie, Robbins, Rovelto, Jordan Smith, Sweeney, and Tang
Associate Head Coaches: Astor, Wates, Maligi and Carstens
Assistant Coaches: Anderson, Bray, Chase, Cole, Corbillon, Damman, Darrow, Dowling, Dunn, Felice, Fonoti, Gilliam, Gregorio, Haliburton, Hartman, Hughes, Klanderman, Klien, Lepak, Malone, Middleton, Mitsunaga, Perry, Riley, M. Smith, Romo, Stanard, Trentham, Tuiasosopo, Wates, Watson, and Wyatt
Senior Administrative Staff: Bach, Brummett, Heil, Lannou, Owen, Scott, Shields, and Waller
Athletics Trainers: Bennett, Burke, Burris, Gallery, E. Greenwald, M. Greenwald, Guzman, Hoffman, Kropp, Markt, Oluwek, Robinson, Sauber, Schock, Thomason (Head Trainer), E. Trausch, Trausch (Sports Dietitian, nutritionist), and Weese
Athletic Communications: Ballard, Barten, Bolin, Fritchen, Gilbert, Knight, Lackey, Lannou (Director), Peterson, Schmitz, and Weidner
Strength and Conditioning Coaches: Aninye, Baier, Blackman, Carroll (Director), Cavender, Griffin, Kloss, Schultz, Thomas, Trudo, and Yancy

Big 12 Conference

K-State is a member of the Big 12 Conference and through that affiliation competes with Baylor University, Brigham Young University, University of Cincinnati, University of Central Florida, University of Houston, Iowa State University, the University of Kansas, the University of Oklahoma, Oklahoma State University, the University of Texas, Texas Christian University, Texas Tech University, and West Virginia University.

Intercollegiate Competition

Intercollegiate competition is open to all students and is coached by staff members who are specialists in their fields.

The men's intercollegiate program competes in football, basketball, baseball, track (indoor and outdoor), cross country, and golf. The women's program offers competition in cross country, volleyball, basketball, track (indoor and outdoor), tennis, golf, crew, and soccer.